The RUBBER AGE

Published TWICE-A-MONTH at New York

Vol. 21 MAY 25, 1927 No. 4

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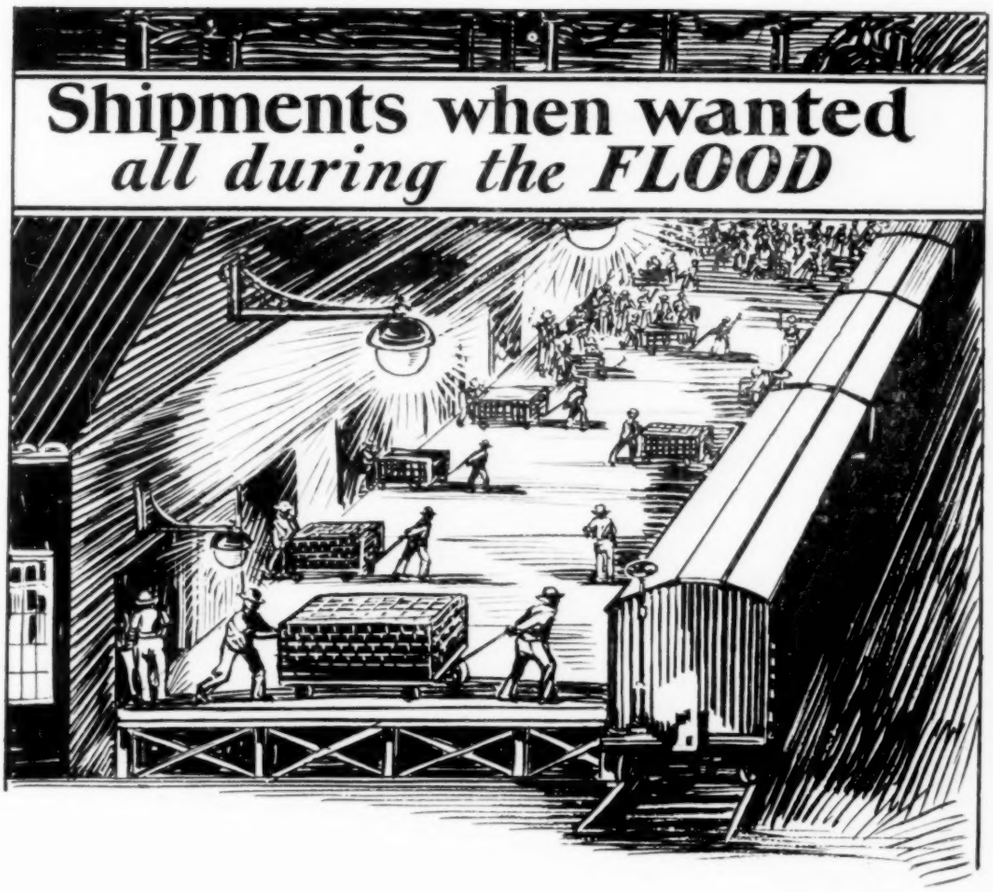

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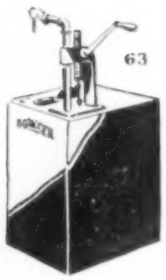

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The
RUBBER AGE

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12′ @ 50 lbs.	4185-760	3495-740
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THE NAUGATUCK CHEMICAL CO.
1790 BROADWAY
NEW YORK CITY, N. Y.

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The
RUBBER AGE

The Only Twice-a-Month Rubber Publication

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NEW RUBBER WORKS FOR ENDICOTT JOHNSON CO.

Immediate Construction of Five Story Factory—Will Manufacture Rubber-soled Athletic and Sport Shoes—Production To Be Increased by $8,000,000 Annually.

George F. Johnson, president of the Endicott Johnson Corporation, has announced plans for the immediate construction at Johnson City, N. Y., of a new five-story brick and steel factory, which will increase the daily output of rubber-soled athletic and sport shoes by 25,000 pairs daily. The new factory will employ 1,000 additional workmen, and will increase the Endicott Johnson production by $8,000,000 annually. The new plant will be 400 feet long by about 60 feet wide and will adjoin a building 200 feet long and five stories high which was erected in the past year. It is expected that the new unit will be ready for occupancy by the late fall of this year or in early winter.

The Endicott Johnson Corporation, which is a large manufacturer of leather footwear, entered the rubber manufacturing field about four years ago in order to supply rubber soles and heels required in its shoe factories. Its rubber business has since grown in keeping with its expanding leather shoe business. The corporation is now turning out in excess of 100,000 pairs daily of both rubber soles and heels, and is rated as the second largest producer in the country. More recently it began the manufacture of rubber-bottomed athletic and sport shoes, and this production has now grown to the point where additional factory facilities are required.

The company's present rubber business employs 700 workers and amounts to $7,000,000 annually. The second unit of the Endicott Johnson rubber reclaiming plant at Johnson City, N. Y., which was in the process of installation in March of this year, will be ready to take care of the increased consumption of reclaim that will occur with the opening of the new factory. The first reclaiming unit which has been in operation since March 1 has a daily capacity of 12½ tons.

GOODRICH TO BUILD WESTERN PLANT

Establishment of a Goodrich branch factory in California became assured recently when B. G. Work, president of the company, visited Los Angeles and closed the transaction. The initial investment will be around $4,000,000. Construction will begin immediately on the first unit which will use up 15 acres of the 45-acre tract which the company has secured. Employment will be given to about 1,500 persons, with an annual payroll of $1,500,000. An initial daily output of 500 tires and 7,500 tubes is expected as soon as the first unit can be put into operation. The new factory will be situated on the east side of Los Angeles. The Goodyear Tire & Rubber Company has a branch factory in the same city.

SALES VALUE OF RUBBER GOODS IS AT HIGH LEVEL

Rubber goods produced in the United States during the first three months of 1927 had a wholesale value of $261,495,000, according to the regular quarterly survey of the Rubber Association. In the corresponding period of 1926, when the prices of rubber goods were much higher than at present, the value of the industry's output was $270,939,000, which indicates that a greater volume was probably produced this year although not quite so much was received for it.

The rubber consumed in the first three months of this year is reported by the Association at 91,279 tons. This figure is taken to be only 92% complete and when it is raised to 100%, the rubber consumption appears to have been 99,216 tons. This is a greater consumption than was recorded in any quarter since 1925.

Hugo Eckener Visits Akron

Dr. Hugo Eckener, head of the Zeppelin works at Friedrichshafen, Germany, and commander of the "Los Angeles" on its trans-oceanic flight, visited the Goodyear Plant at Akron, recently.

BALLOON TIRE PATENT SUIT FILED IN DETROIT

Steel Wheel Company of Lansing Sues Goodrich in Test Case to Establish Validity of Patent Granted to A. L. Putnam in 1925—Extended Litigation Expected.

The long-expected suit over alleged infringement of the balloon tire patent granted to Alden L. Putnam in 1925 has been filed in Detroit and may have a profound effect on the business of every tire manufacturer before it is settled. The plaintiff is the Steel Wheel Corporation of Lansing, Mich., exclusive licensee of the inventor. The defendant in this test case is the B. F. Goodrich Company which, like all other tire manufacturers, has not taken Mr. Putnam's claims seriously and has proceeded to manufacture and distribute low-pressure tires without regard to his patent.

The patent which Mr. Putnam claims is being infringed is No. 1,537,879, which was granted on May 12, 1925. The application for the patent was filed in 1920 but the original claims did not appear valid to the patent examiners in Washington and Mr. Putnam revised his application considerably before it was finally granted. The features of the tire which Mr. Putnam stressed in his application were (1) low pressure, (2) larger cross section, and (3) decrease in the ratio of sidewall thickness to cross-sectional diameter.

Immediately the patent was granted, the Steel Wheel Company, to which it was assigned, notified all American balloon tire manufacturers that the balloon tires they were making apparently infringed the Putnam patent and called upon them to stop such infringement. An offer to grant licenses under the patent was also made. In thepresent bill of complaint, filed at Detroit on April 26, 1927, the Steel Wheel Corporation admits that the manufacturers received this notice "with skepticism". As a matter of fact, they disregarded it entirely, except in certain instances when statements were made to newspaper men that the low-

[Concluded on Next Page.]

PUTNAM PATENT SUIT

[*Continued from Previous Page.*]

pressure tire idea did not appear patentable and that the validity of the Putnam patent would be open to serious question.

The Steel Wheel Corporation now asks that the B. F. Goodrich Company be ordered to make an accounting of the profits accruing to it by reason of infringing the Putnam patent in the manufacturing and sale of balloon tires. The case will of course resolve itself into testing the validity of the Putnam patent. If its validity should finally be upheld, the effect on the tire manufacturers would be far-reaching and perhaps disastrous in some cases since tens of millions of balloon tires have been manufactured and production is swinging more and more in that direction. The first legal action will be in the U. S. Court for the Eastern District of Michigan, but appeals and long drawn out litigation is inevitable, no matter which side wins the first skirmish.

The tire manufacturers' disregard of the Putnam patent is due to their belief that the low-pressure idea in tire construction is not new and hence not patentable. At the time the companies were warned "to stop and desist" in 1925, B. G. Work of the Goodrich company pointed out that the idea of large-diameter, thin-walled tires had been used as early as 1910 for automobiles and more recently for airplanes. There appeared to be an unanimous disposition to make Mr. Putnam, or his assignee, prove the validity of the patent, and that is what is intended in the present tardy action.

AKRON TIRE FACTORIES ON HIGH OUTPUT BASIS

Akron tire factories continue to operate at close to peak production and the total number of tires being produced per day or per week is probably greater than ever before. Almost without exception, the tire plants are unusually busy. Goodyear is said to be maintaining a daily output of around 50,000 casings. Goodrich has made an astonishing increase in its production and is now credited with manufacturing around 38,000 casings per day. Firestone production is well above 40,000, and the smaller plants are behind on their orders. The total daily output of the Akron tire factories is believed to be not far from 150,000 casings at the present time.

New U. S. Rubber Film

A new motion-picture of the production of plantation rubber on the estates of the United States Rubber Company has recently been shown in New York for the first time. The film consists of twelve reels and shows every step in rubber production from clearing the jungle to shipping the rubber or latex. From an artistic standpoint the picture is believed to surpass almost all commercial pictures made in the past. The United States Rubber Company has shown the film a few times in New York City and plans to give it wide distribution throughout the United States.

GATES RUBBER PROFIT 10% DURING QUARTER

C. C. GATES

Profits on sales made by the Gates Rubber Co., Denver, Colo., amounted to 10.55% in the first quarter of 1927. The company's net tire sales showed an increase of 8.91% in dollar volume during the quarter as compared with the corresponding period of last year. A unit volume increase of 14.5% in tires manufactured was also shown. The Gates Rubber Co., are manufacturers of tires, tubes, belts and hose. C. C. Gates is president of the company.

STANDARD PRODUCTION FOR MALAYA ANNOUNCED

It has been announced in London that the assessed standard production for British Malayan rubber plantations in the current restrictions year totals 333,840 tons. This figure checks closely with the unofficial figure of 334,000 tons which had been deduced from shipments in past quarters and used by statisticians in both England and the United States. It is believed by many that such a standard production is much too high, but it is not beyond what had been expected.

The standard production assessed for Ceylon under the restriction scheme is just a trifle less than 70,000 tons. This allowance is also known to be higher than is justified by the actual ability of the plantations to produce.

Rubber Trade Ass'n Moves

The Rubber Trade Association, Inc., announced its change of address on May 16 from 75 Maiden Lane to 89 Broad St., New York.

AJAX HEAD OFFICES WILL REMAIN IN N. Y.

Reports of Moving to Racine, Wis., Are Denied—New Warehouse and Office Space in Racine to Reduce Production and Overhead Costs—Some Depts. Move.

The executive offices of the Ajax Rubber Co., now located at 220 W. 57th St., New York City, will not be transferred to Racine, Wis., as was rumored in press dispatches recently, nor will the company's plant in Trenton, N. J., be abandoned and production concentrated in the Racine plant. An officer of the Ajax company denied the authenticity of these rumors, and in an interview said:

"Various unauthorized reports have been published regarding action of the Ajax Rubber Co., Inc., in connection with activities at Racine, Wis., and to the effect that the company intends to move its offices from New York City to that point; also alleged proposed changes at its plant in Trenton, N. J. It is now stated authoritatively that the present new activities at Racine involve the erection of a building for warehouse, additional office space and added production purposes, as well as the installation of labor saving devices, all for the purpose of reducing production costs."

It was further stated by the Ajax official that the company had maintained executive offices in New York from the time the firm was founded in 1905, and that it was the intention of the company to continue such offices in New York in the future, but that at a later date some of the departments that now comprise the personnel of the New York office would probably be removed to Racine for the purpose of organization efficiency and overhead savings. Concerning the Trenton plant, the official said: "Due to loss of production at Trenton in previous years during hot weather, at which time demand for the product is greatest, the company has made preparations during the winter and spring months to take care of the peak demands during the spring and summer seasons, and may find it more economical to curtail or temporarily discontinue production at Trenton. In case of such action, however, it is expected to be only of temporary duration."

$600,000 PLANT FOR LA CROSSE RUBBER CO.

Albert P. Funk, president of the La Crosse Rubber Mills Co., of La Crosse, Wis., recently announced the construction of a $600,000 addition to the plant in order to take care of the company's increased business. Mr. Funk is quoted as saying that the new addition will increase the personnel of the company from 1,400 to 2,000 employees, and will increase daily production from 30,000 pairs of rubber boots and shoes to 40,000 pair.

ISSUE FINAL REPORT ON USE OF RECLAIMED

Rubber Division Reports Cooperation of 276 Firms—1926 Production Totals 180,000 Long Tons and Consumption 164,500 —Much Reground Scrap Used.

There were 180,000 long tons of reclaimed rubber produced in the United States in 1926 and 164,500 long tons were used in the manufacture of rubber goods. Of the remainder, 5,400 tons were exported and about 10,000 tons were added to stocks. These figures, partly estimated but principally definite and official have been announced by the Rubber Division of the Department of Commerce as the final results of its nation-wide reclaimed rubber survey.

Statistics were received from 276 companies, including 11 reclaimers, 35 rubber manufacturers who also reclaim and 230 other rubber manufacturers. The Rubber Division's official compilation is as follows:

RECLAIMED RUBBER SURVEY, 1926

Firms Reporting		*Long Tons*
46	Production of reclaimed rubber	169,810
265	Consumption of reclaimed rubber	152,906
	Stocks of reclaimed rubber:	
249	On December 31, 1925	13,204
257	On December 31, 1926	23,218
	Reclaimed rubber exported in 1926	5,391
95	Factory scrap reground and used by rubber manufacturers	13,278
44	Production capacity claimed by firms reclaiming rubber	227,592

A total of 99 firms, including four reclaimers, failed to submit statistics as requested. The Rubber Division estimates that if all reclaimers had reported, the total production shown for the year would have amounted to 180,000 long tons. Deducting the additions to stocks and the tonnage exported would leave 164,500 long tons as the probable reclaimed rubber consumption in 1926. The consumption in 1925, according to the survey for last year, was 137,105 long tons. Production in that year was placed at 141,676 long tons.

How the reclaimed rubber production in 1926 was divided between reclaimers and manufacturers who also reclaim, as well as other pertinent facts, is shown in the following table:

PRODUCTION AND USE OF RECLAIMED RUBBER, 1926

Firms Reporting		*Long Tons*
	Reclaimers Solely	
10	Stocks December 31, 1925	1,207
11	Stocks December 31, 1926	3,748
11	Production, 1926	66,134
11	Production capacity, Dec. 31, 1926	93,204
	Manufacturers Who Also Reclaim	
34	Stocks, December 31, 1925	5,995
35	Stocks December 31, 1926	11,613
35	Production, 1926	103,675
33	Production capacity, Dec. 31, 1926	134,388
35	Consumption, 1926	74,844
19	Consumption of reground factory scrap	9,592
	Other Manufacturers	
205	Stocks December 31, 1925	6,001
211	Stocks December 31, 1926	7,856
230	Consumption, 1926	78,061
76	Consumption of reground factory scrap	3,686
	Reclaimed Consumption by Products	
83	In rubber tires and tubes	55,803
194	In other products	95,331
5	Undivided	1,770

At the end of 1926, the Rubber Division says, there were 49 firms producing reclaimed rubber in the United States and 76 other rubber manufacturers were regrinding factory scrap for further use in compounds. Two rubber manufacturers who reported a limited production of reclaimed rubber in 1926 stopped reclaiming before the end of the year. One plant producing reclaimed rubber was burned in 1926 and no record of its production was available.

The War Industries Board took a survey of the reclaiming industry of the United States for 1917 and the Rubber Division has produced some interesting comparisons between that war-time year and 1926. In the former year 56.7 per cent as much reclaimed as crude was used, the ratio for reclaimed in tires being 19 per cent as against 144.7 per cent in other rubber products. During 1926 the tonnage of reclaimed used was 45 per cent that of crude; in tires the ratio of reclaimed to crude was 19.8 per cent while the ratio in the other rubber products was 176.9 per cent. In other words, higher proportions of reclaimed were used last year than during the first year of America's participation in the World War.

The Rubber Division offers the following table as representing the annual trend in the use of reclaimed rubber:

RELATIVE CONSUMPTION OF CRUDE AND RECLAIMED RUBBER

Year	*Crude Rubber Long Tons*	*Reclaimed Rubber Long Tons*	*Ratio Reclaimed to Crude Per Cent*
1917	157,371	89,168	56.7
1919	202,303	73,535	36.3
1920	196,270	75,297	38.4
1921	169,308	41,351	24.4
1922	283,271	54,458	19.2
1923	274,956	69,534	25.3
1924	301,778	76,072	25.2
1925	387,629	137,105	35.3
1926	366,000	164,500	45.0

New Michelin Equipment

The new "Confort Bibendum" tire and rim, announced by the Michelin Tire Company of Clermont-Ferrand, France, late last year, and fully described in THE RUBBER AGE of December 10, 1926, is now being furnished to French automobile manufacturers as original equipment. The new rim is a modification of the drop-center rim but is made in new sizes. It is sure that it will be widely adopted on French automobiles.

V. A. POKROVSKY P. S. ZACKAROV

Representatives of the Rubber Trust of Soviet Russia who are now in the United States to Study the Rubber Industry.

RUSSIANS WILL STUDY U. S. RUBBER INDUSTRY

Delegates from Soviet Rubber Trust Are In This Country in Effort to Stimulate Production at Home Through Adopting American Methods and Equipment.

Two representatives of the Rubber Trust of Soviet Russia have recently arrived in the United States for the purpose of studying the latest production methods of the American rubber industry. The two delegates V. A. Pokrovsky and P. S. Zacharov, stated to a representative of THE RUBBER AGE that they expected to be in this country for about five months during which period they will visit Akron and other rubber centers where they will study factory operations. In addition to being interested in actual production methods the delegation plans on making a survey of the latest types of machinery and equipment used in tire, footwear and mechanical rubber goods factories.

While in this country they expect to place orders for considerable quantities of equipment and supplies. It is understood that an order for $200,000 worth of crude rubber has already been placed with one of the leading importers in the New York district.

Upon their return to the Soviet Union, Messrs. Pokrovsky and Zacharov will make a report based on their study of American production methods and materials. At the present time the three rubber plants remaining in Russia are back to their pre-war rate of production and it is expected that with the installation of new equipment these plants can double their output. Last year the three factories produced over 27,000,000 pairs of galoshes as well as tires valued at $5,000,000, an increase of 30 per cent over 1925. About 7,000 tons of crude rubber were used in 1926 and it is planned to import close to 9,000 tons this year.

CURES ALL CASINGS BY WATER BAG PROCESS

The Seiberling tire factory at Barberton, Ohio, according to a recent announcement of the company, has adopted the water-bag cure 100 per cent. Other companies have also used this process for curing their casings but the Barberton company claims to be the first to swing its entire production over to it. Greater uniformity in cure and a saving of from 10 to 15 per cent in time are said to be the principal advantages.

Mansfield Visits East

H. R. Mansfield, vice-president in charge of production of the Pioneer Rubber Mills, San Francisco, left on May 10 for a business trip to New York, Chicago, and other eastern cities. He will be gone for about six weeks.

Floods Have Had Little Effect On Production of Carbon Black

Carbon Black Supplies Are Ample Enough to Fill All Current Needs and No Shortage is Expected by Leading Producers —Shipping Facilities Limited—Spot Prices Are Firm.

An investigation conducted by THE RUBBER AGE among the leading producers and distributors of carbon black on the effect of the recent flood conditions in the Southern states on the production and shipment of this commodity has disclosed the fact that although in a number of cases transportation facilities were limited and shipments delayed for periods up to ten days, production on a whole has not suffered materially and rubber manufacturers need have no fear of any possible shortage. Spot prices have become firm but are otherwise unchanged.

Fortunately for the industry, gas conservation legislation in Louisiana has forced many producers of carbon black to seek other fields and as a result a large volume of carbon black is now obtained in Texas, Wyoming, Montana and Utah. In the present crisis producers have been able to rely on these states for their supplies as well as on the ample warehouse stocks which have been carried in leading northern cities.

Reports of Several Suppliers

In the Monroe district of Louisiana, from which a considerable portion of the carbon black used in the rubber industry is obtained, several of the Binney & Smith Co. plants were shut down due to rising waters and some warehouses were inundated. A considerable amount of carbon black was ruined but no exact estimate of the damage could be obtained. It is felt, however, that the amount was comparatively small and would have no material effect on available supplies. The real problem in this section has been that of transportation, for a large number of box cars were requisitioned for refugee purposes. Shipping was paralyzed for a period of ten days, but is expected to be back to normal within thirty days. In those cases where shipments were not possible from this district, Binney & Smith were able to fill orders from their Texas, Wyoming and Montana plants.

J. M. Huber Co., Inc., reported that the flood had in no way affected its Swartz, La., plant and that there had been no interruption in production or shipments of carbon black. In some cases, orders for shipments were transferred to Huber's Texas and Wyoming plants on account of the shortage of freight cars in Louisiana. A Monroe newspaper recently paid tribute to the Huber Company for helping to stem the incoming floods at Monroe, which is 15 miles from Swartz. The whole Huber shipping crew suspended operations for a week-end and went to Monroe in the Company's trucks and assisted in laying sand bags at strategic points.

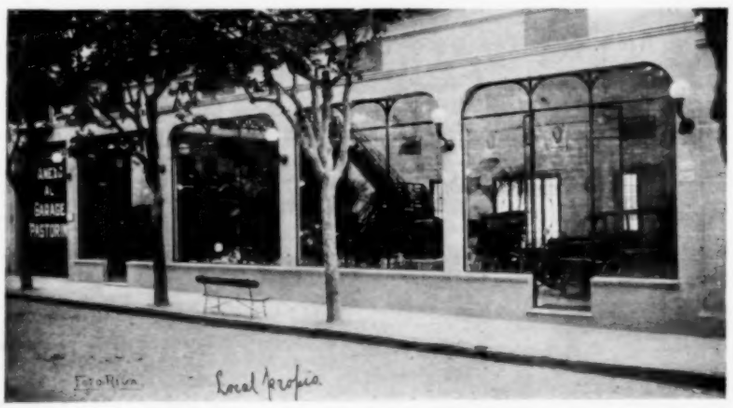
Godfrey L. Cabot, Inc., of Boston, Mass., reported that a considerable amount of carbon black stored in Louisiana had been spoiled by rising water and that they were unable to give an accurate estimate of the amount, but believed it to be between 1,000,000 and 5,000,000 pounds. Cabot estimated that the production of carbon black in Louisiana for 1927 would be reduced by about 2,000,000 pounds owing to the floods, but that this would not represent a serious loss to the industry as a whole. From the consumer's point of view, Cabot stated, there was absolutely no need of fearing a possible shortage in either present or future supplies of carbon black. Continuing, the Cabot statement said:

"The saving feature for ourselves and for the industry as a whole has been the distribution of producing facilities. If this flood had occurred two years ago when the bulk of the production was in Louisiana there might have been an acute, although very brief, shortage for much carbon black stored in Louisiana could not have got out. Our factories in Texas, Montana and Utah, as well as Louisiana, make it very unlikely that our shipping facilities could be crippled by any natural catastrophe, however great."

R. W. Greeff & Co., New York City, distributors of the Crow Brand carbon black manufactured by the Texas Carbon Industries, Inc., Breckenridge, Texas, reported that the factories which constituted their source of supply were out of the flooded territory and that production and shipment of carbon black was proceeding normally.

The R. T. Vanderbilt Co., New York City, reported that Thermatomic black, produced at Sterlington, La., about 25 miles north of Monroe, was being produced in normal amounts without any difficulties, but that shipping facilities had been limited for several weeks past. This concern, however, had on hand a 60 day supply, a large portion of which was shipped before the shortage of freight cars was apparent. Large warehouse stocks of this material are available in the north and no difficulty is expected in filling all current orders.

URUGUAYAN TIRE DEALERS SELL MOHAWK PRODUCTS



Ultra-modern Showroom where Mohawks are Sold in Florida, Uruguay.

The firm of Manuel Luis Pastorini & Co., Florida, Republic of Uruguay, has developed a substantial tire business with the products of the Mohawk Rubber Company, Akron, Ohio. Started ten years ago, the firm now occupies a showroom that is worthy of automobile row in New York City, and to be truthful is even better maintained than some of the less pretentious establishments on that world-famed thoroughfare, Broadway. The energy and business acumen of the partners, Felipe, Juan Carlos and Manuel Pastorini is reflected in the prosperous business they have built up with the aid of Mohawk tires and the experience of American tire dealers, of whose methods and sales policies they keep informed.

FOSTER NEW PRESIDENT OF RARITAN RUBBER, INC.

At an annual meeting of the stockholders of the Raritan Rubber, Inc., solid tire manufacturers of New Brunswick, N. J., Alfred Foster, formerly treasurer of the company, was elected president. Wiliam Dudde, who was associated for eight years with Mr. Foster in the Metropolitan Truck Tire Co., was made treasurer. Maxwell M. Kahn, former technical director of the Overman Cushion Tire Co., was re-elected as vice-president and factory manager. Russell E. Watson was re-elected secretary.

The new president has announced that the Raritan factory is now working at full capacity and has a big volume of orders waiting.

PARA-FLUX

(Reg. U. S. Patent Office)
(U. S. Pat. No 1,611,436)

The Universal Softener

ADAPTABLE

For Tires, Mechanicals, Frictions, Hard Rubber, Reclaims.

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Manufactured to Rigid Laboratory Standards.

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Wear, Tensile, Ageing, Softness, Tack.

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GOODYEAR--DILLON SUIT SETTLED OUT OF COURT

Mediation of Owen D. Young Results In Compromise Agreement—Dillon, Read & Co., Will Act as Goodyear Bankers—History of Litigation.

The $15,000,000 lawsuit brought by a group of stockholders of the Goodyear Tire & Rubber Co., against Clarence Dillon, John Sherwin, and Dillon, Read & Co., was finally settled outside of court on May 15, when a compromise agreement was arrived at, due to the mediation of Owen D. Young. The date of the court trial was set for May 16 in Akron. Mr. Young was one of the three owners of management stock, and the only one who was not involved in the litigation.

In an announcement of the settlement, it was said that all of the parties recognized the constructive nature of the reorganization of 1921, which was sponsored by Dillon, Read & Co., and as a result of which the Goodyear company, then facing disaster, had been rehabilitated. Under the terms of the agreement, Dillon Read & Co., will act as bankers of the Goodyear company and, in the near future, contemplate a public offering of an issue of $60,000,000 of 5% bonds, the proceeds of which are to be devoted to the retirement of the 8% first mortgage bonds, the 8% debentures and the 8% prior preference stock issued in connection with the reorganization of 1921.

Cancel Management Stock

Under the provisions of the 1921 reorganization plan, issuance of management stock was made to Clarence Dillon, John Sherwin and Owen D. Young. This stock was to remain intact as long as the first mortgage bonds and debentures were outstanding. The retirement of the first mortgage bonds and debentures under the present agreement will automatically result in the cancellation of the management stock, around which have centered the principal legal controversies. An independent board of directors, representative of all classes of stockholders, and upon which Messrs. Dillon, Read & Co., and John Sherwin will be represented, is to be selected and put into office, under an arrangement whereby the stability of the board will be assured for a reasonable length of time. All voting trusts, including the one dominated by F. A. Seiberling, are to be terminated.

Every effort will be made by all parties to dispose of existing stockholders' litigations as promptly as possible, and in such a manner as may be determined by counsel and approved by the various courts, with a view of preventing any possibility of a recurrence of the present situation. The so-called stockholders' protective committees are to be dissolved at once. No change in the management of the Goodyear company is contemplated, and P. W. Litchfield will remain president.

The legal troubles of the Goodyear Tire & Rubber Co., date back almost to 1921, when the Dillon, Read interests took over control from Mr. Seiberling and his associates. At the time of the present agreement, nine lawsuits in all were pending, with fifteen of the leading law firms of New York and Cleveland arrayed on one side or the other. For many years previous to 1921 the Goodyear company had been controlled by Frank A. Seiberling and his associates, who had built it up from a small company in the early days of automobile tires, to one of the world's largest rubber companies. In 1920 the post-war depression set in, however; the price of rubber dropped, and Goodyear found itself with vast rubber and fabric commitments at high prices. From this situation resulted the financial difficulty of 1921, when the company came to the brink of a receivership. In May, 1921, Dillon, Read & Co., effected a financial reorganization and a change in management. Mr. Seiberling was ousted from control and Clarence Dillon, John Sherwin and Owen D. Young were named as the holders of the management stock.

The deposition hearings which were held in New York during March and April of this year centered on the legality of this management stock which was questioned by F. C. Tomlinson and a group of stockholders. This group charged that Messrs. Dillon and Sherwin had broken their trust and had made personal gains out of their control of Goodyear. The trial, which was to have taken place in Akron on May 16, has been cancelled.

FILES REPLY "TO PROTECT HIS GOOD NAME"

Years ago when F. A. Seiberling was president of the Goodyear Tire and Rubber Company, which he founded in Akron in 1898, he devised for the company a slogan which became famous throughout the country. It was "Protect Our Good Name" and meant that both Goodyear personnel and products must constantly guard the good name which had been built up for the company.

Early this month Mr. Seiberling, having been deposed as head of Goodyear and now heading his own company, found himself forced to reply to serious allegations in order to protect his own good name. These allegations were the basis of a suit which the present Goodyear management had filed against him personally in the Common Pleas Court at Akron. The chief charge concerned his use of an open account while he was head of Goodyear.

In his spirited reply Mr. Seiberling stated that the $3,744,729, the amount charged against him on open account before October 31,1919, was fully paid on December 6, 1920, when Goodyear entered into contract with him to accept payment in valuable real estate in Akron and corporate stocks which he delivered and the company accepted. Goodyear, he states, still retains land but he is informed it had sold the corporate stocks November 30, 1926, "retaining and keeping for his own account the purchase price thereof."

F. A. SEIBERLING

Mr. Sieberling also contends that existence of his personal account was never concealed from any director or officer of company or employe charged with bookkeeping, and avers it was agreed by the company that no interest was to be charged.

Mr. Seiberling further states that while he was president and general manager of Goodyear he personally endorsed company's notes in order to secure company credit totaling over $500,000,000. In 1920 alone, he states, there were outstanding $20,000,000 in notes, all endorsed or guaranteed by him, and at no time did he receive compensation or fee for this service.

While president and general manager, Mr. Seiberling says, he allowed Goodyear to use his patents without paying royalty, which were reasonably valued at over $6,000,000. He also granted company half of the royalties received by him from other manufacturers licensed to use the inventions, which totaled over $1,000,000.

Replying to charges relating to development of Goodyear Heights No. 2, Mr. Seiberling said he and his wife, at request of the company, guaranteed payment of mortagages on property in excess of $3,500,000. He also defends his action in purchasing half-interest in Akron, Canton & Youngstown Railway Co., on the ground it was necessary to the company.

The suits involving Mr. Seiberling personally were not included in the Goodyear litigations adjusted on May 15, but are still awaiting trial in court.

The Mandrel for Round Tubes

Small diameters and large cross sections have changed inner tube manufacturing methods.

Circular cured ring shaped tubes eliminate wrinkles and are not stretched to fit but made to fit the casing.

That means no pinching and longer wear.

The trade are demanding round tubes. The circular mandrel makes them round without any change in your present equipment.

We will be pleased to send you full information on the use of Circular Mandrels.

THE CLYDE E. LOWE CO.

2976 East 81st Street Cleveland, Ohio

CURVED ECONOMY CALENDER SHELLS MANDRELS

Tire Price List Favored

Return of the published consumers' price lists for tires was favored at two meetings of tire dealers in New York recently. The subject was advanced by George J. Burger, past president of the National Tire Dealers' Ass'n, who advocated a 20 per cent mark-up. Up until a few years ago tire manufacturers published suggested consumers' price lists. While these were not always adhered to, the retail price situation was then better than it has been recently. The abolition of suggested retail price lists is believed to have contributed largely to the retail price competition which has almost cancelled the profits of many tire dealers. Mr. Burger has been appointed by the Greater New York Tire Dealers' Ass'n to prepare a program aiming at the improvement of retail conditions in the New York tire market.

Golf Ball Imports Decline

During the first three months of 1927 importations of golf balls into the United States amounted to 477,721 as compared to 533,654 during the corresponding period in 1926. March of this year saw the importation of 246,221 golf balls, a decline of 171,269 from March of last year. This gradual reduction in imports is believed to be due to increasing activity of American manufacturers in golf ball manufacture.

fine Rubber Pigments

MANUFACTURED BY HUBER

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THE STANDARD CARBON BLACK OF THE RUBBER INDUSTRY—

PRODUCED AT SWARTZ, LA., BRECKENRIDGE, TEXAS & LANCE CREEK, WYO.

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HIGH RE-ENFORCING POWER AT ORDINARY FILLER COST—

PRODUCED AT WARRENVILLE, S. C.

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SOFT, BRILLIANT COLORS FOR RUBBER PRODUCTS—

PRODUCED AT BROOKLYN, NEW YORK

J. M. HUBER, INC.

CARBON BLACKS — CLAYS — DRY COLORS

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Branches in Principal Cities

AKRON MOLD COMPANY AGENT FOR JOHN ROYLE

Arrangements have been made between John Royle & Sons, of Paterson, N. J., manufacturers of Royle perfected tubing machines, and the Akron Rubber Mold and Machine Co., of Akron whereby the latter will act as sales and service agent for the former. This arrangement makes immediately available to Akron rul ber manufacturers full information and service on Royle equipment.

Preparations are under way to carry a few standard Royle machines and parts in stock at the Akron Rubber Mold plant, 917 Sweitzer Ave., for sale and exhibit. The agency contract authorizes the Akron Rubber Mold and Machine Co., to sell the Royle line anywhere in the United States and Canada, but is primarily intended to serve the rubber trade in Akron and vicinity.

Rubber Exchange Meeting

A special meeting of the membership of the Rubber Exchange of New York, Inc., was held on the floor of the Exchange May 23 when recommendations relative to the warehousing of crude rubber, certification of quality, revisions of commissions, etc., were considered. The recommendations were made by a committee appointed by Exchange members in February.

On Sales Trip in Europe

G. B. Towne of the general sales department of the Pioneer Rubber Mills of San Francisco, left May 4 on a three months sales trip to England and Continental Europe. The Pioneer Rubber Mills have a well established business in Europe at the present time on their mechanical rubber goods.

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GOODRICH EXHIBITION IN AIRCRAFT DISPLAY

In the recent All-American Aircraft Display held at Bolling Field, Washington, D. C., the B. F. Goodrich Rubber Co., of Akron, participated with a varied exhibition of aircraft products manufactured by the company.

The name of Goodrich has long been associated with the widely expanding uses to which rubber is daily put.

With the growth of the aviation industry, Goodrich has endeavored to meet the needs of manufacturers and their portion of the display showed various sizes of airplane tires ranging up to 64 by 14 in. Shock absorber cord, shock absorber cord rings, sponge rubber, shock absorber blocks, rubber hand-hole covers for pontoons, radiator hose and similar commodities were also on view. Samples of various types of Aeroboard were shown. This material is made of a hard sponge rubber core, surfaced with either duralumin, hard rubber or hard rubberized fabric. The last two types are now in production and are being used for miscellaneous purposes in aircraft manufacture.

AUTOMOBILE OUTPUT INCREASES IN APRIL

According to factory sales reported to the Department of Commerce by 156 manfacturers, a total of 397,566 motor vehicles, including 353,071 passenger cars and 44,495 trucks were produced in April, as compared with 430,523 in the same month of last year.

The figures of April, 1926, were the largest since 1922, the nearest approach being 421,993 in April, 1925.

The production in the first four months of this year has been 1,317,394 cars, while in the same four months of 1926, the total production was 1,508,294 cars.

In 1926, 4,219,442 cars were turned out, this being the largest number reported in any twelve months during the last five years.

Truck production in the U. S. during March was 45,056 a slight advance over the April production. On the other hand, March production of passenger cars was less than April production, the latter month gaining by 41,406 cars.

138 Tires Imported

A total of 138 tires valued at $3,651 were imported into the United States in March. Of this number 53 came from England, 9 from France, 6 from Canada and 70 from all other countries. During the quarter of this year 480 tires were imported at a value of $12,029 while in the first quarter of 1926 a total of 1,191 tires entered the country at a total value of $20,174.

Raritan Rubber Busy

Raritan Rubber, Inc., New Brunswick, N. J., organized about six months ago, has been operating on a 24-hour schedule since it began operations, and contemplates enlarging its factory in the near future. The company manufactures solid truck tires exclusively.

F. L. Curtis Appointed

F. L. Curtis, vice-president of the Manhattan Rubber Mfg. Co., Passaic, N. J., has been appointed vice-president of the rubber belting division of the Power Transmission Association. Manhattan is one of the few rubber companies which have accepted membership in this recently-organized trade body.

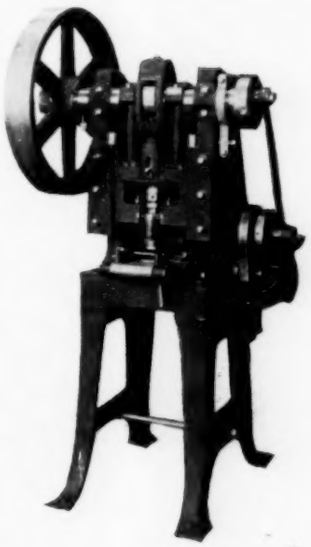
Holt Speaks at Barberton

E. G. Holt, Chief of the Rubber Division of the Department of Commerce, was a recent speaker before a meeting of businss men of Barberton, Ohio. He stressed the importance of reclaimed rubber, a considerable tonnage of which is produced in Barberton. Mr. Holt predicted a prosperous year for rubber manufacturers. He also explained the services his division was prepared to render to the rubber industry.

CATALPO!

Coulter Automatics

Heel Dieing Press



Cuts 100 to 200 Rubber Heel Blanks per minute from a strip of rubber taken off directly from the mixing mills. Scrap goes right back into mills before it has cooled.

NOW IN USE BY SEVERAL LARGE MANUFACTURERS OF RUBBER HEELS

Machine fed directly from mill —Capacity 100 to 200 single heels per minute—200 to 400 with double dies—Cutting dies can be changed from one size to any other size in less than two minutes—Automatic stripper separates heels from scrap —Scrap can be returned immediately to mixing mill — Economical to operate—Small space needed.

SEND FOR MORE COMPLETE DETAILS.

Here's what one of the largest manufacturers of rubber heels in the United States writes us:

"Your automatic heel cutting press is working very satisfactorily. We do not have any trouble in cutting 200 pairs per minute on a single die. This is much cheaper and better than the old way of cutting."

Let us tell you how to cut your heels "cheaper and better than the old way".

The Automatic Machine Co.

115 East Washington Ave. BRIDGEPORT, CONN.

BRITISH ARMY MAY WEAR RUBBER HEELS

The British War Office in London is considering the sanctioning of rubber heels for all ranks of the British army. The Brigade of Guards "show" soldiers of the army, have worn rubber heels for a year with the desirable result that the nightly march of the Guards to the Bank of England has been in silence. The London Command has found no fault with the rubber heel and it is understood that this innovation in the soldiers' dress regulations is favored by them.

Denied Stock Permit

The American Rubber Corporation, a Delaware corporation with offices in Los Angeles, has been denied a permit to sell $50,000 worth of stock in California. In denying the permit, Clifford J. MacMillan, State Commissioner of Corporations, stated that the company planned to produce guayule in Mexico, and uncertainty as to the effect laws in that country would have upon such an enterprise prompted his action.

U. S. Rubber Maps Free

Tourists who pass over the Bear Mountain bridge, spanning the Hudson River at Interstate Park, N. Y., are presented at the bridge's toll gate with a folder published by the U. S. Rubber Co., containing a map of the chief highways of New York state and a smaller map of the roadways in the vicinity of Bear Mountain.

EXCHANGE OPERATIONS DULLEST IN 15 MONTHS

Trading on the Rubber Exchange of New York has been exceedingly dull during recent weeks. As crude rubber prices have become stable to an unexpected degree, Exchange operations have become more and more quiet.

During the period May 3 to 18, inclusive, which contained 14 trading days, only 764 lots of rubber changed hands, an average of 55 lots per day. On one day only two lots, equal to five tons, of rubber was moved. The dullness on the Exchange has been worse than at any time since the organization was started about 15 months ago.

The Exchange will be closed on May 28, the Saturday before Memorial Day. A committee has been studying the warehousing question and some definite recommendations are expected soon.

Rubber in Aerial Cameras

The latest models of the Fairchild Aerial cameras are mounted on specially-designed rubber shock absorbers to protect them from the vibrations of the planes in which they are used. This use of rubber is said to contribute much to the excellence of modern aerial photographs.

Treadwell in Tropics

J. C. Treadwell, well-known consultant on rubber planting problems, is in Central America on a private rubber investigation. His itinerary has not been disclosed.

The Philadelphia Rubber Works Company

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WHITFORD WILL VISIT EAST FOR ASSOCIATION

Head of Rubber Association's Crude Rubber Department Will Make Investigation With Special Reference to Future Supply from New and Old Rubber Areas.

H. N. Whitford, manager of the crude rubber department of the Rubber Association of America, Inc., will sail from San Francisco on the S. S. President Grant on June 11 to make a first-hand investigation in the rubber producing countries of the East on behalf of his organization. It is expected that the field work will cover several months and that he will accordingly not be back at his desk until early in 1928.

The complete program of Dr. Whitford's work has not been announced but it is known that he will give particular attention to securing more definite information about the probable trend of crude rubber production in the next few years. An attempt will be made to gauge the extent to which native and newly-planted areas may be looked to as a rubber source. The question of declining production on the oldest acreage will also be studied.

Just how the results of Dr. Whitford's work will be given to the members of the Association has not been decided. He will probably make a series of progress reports and keep closely in touch with the Association offices in order that he may add new subjects to his investigation if that should appear desirable while he is away. After his return, the major reports will be given attention.

Dr. Whitford came to the Rubber Association from the Department of Commerce where he was in charge of the crude rubber survey made by the Rubber Division. He has spent several years in the Philippines and will visit Manila again on his way to Singapore. While the greater part of his time will be spent in Malaya and the Dutch East Indies, he expects to visit other rubber producing territories also.

H. N. WHITFORD

COMMITTEE ON PHYSICAL TESTING FILES REPORT

The physical testing committee of the Rubber Division, American Chemical Society, which was appointed last October, has completed the first problem on its program. This investigation was to determine the importance of controlling temperature and relative humidity during the storage and testing of cured rubber test specimens in a commercial laboratory. The work was carried out at the Bureau of Standards in Washington, the expense being defrayed by the members of the committee.

As a result of its findings, the committee recommends that physical testing rooms be maintained at a constant temperature with a total variation of not more than 5 degrees and that the cured specimens be stored in this room in a humidified chamber controlled to a relative humidity within limits of 10%. A temperature of 25 degrees C. and relative humidity of 80% is proposed. J. E. Partenheimer of the Fisk Rubber Company is chairman of the committee.

SCOTT ADDS TO SPACE FOR OFFICE AND SHOP

The D. C. Scott Company of Providence, R.I., manufacturers of testing machinery for the rubber and textile industries, have recently completed a two-story and basement addition to their plant at Culver and Blackstone Streets, to take care of their increasing business. The size of the new building is 51 x 68 feet and adds over 10,000 square feet to the space formerly occupied for office and factory.

The basement will be used for heavy grinding machinery with provisions made for separate concrete foundations for each machine so as to overcome vibrations usually transmitted to the rest of the building. The ground floor will be used as an addition to the machine shop, thus doubling that space. The upper floor will be used for the assemblying department as well as for office space and a new show room in which will be displayed models of the various Scott testing apparatus.

Norwalk Increases Stock

The stockholders of the Norwalk Tire & Rubber Co., Norwalk, Conn., at a special meeting held April 19, approved a plan to change the outstanding common stock from 150,000 shares of $10 par value to 150,000 shares of no-par value. It was also voted to offer common and preferred stockholders the right to subscribe pro rata to the 100,000 shares of new no-par common at $5 a share.

BIG RUBBER TONNAGE CONSUMED IN APRIL

Almost as Much Rubber is Used in April As in Previous Month—Consumption This year Surpasses 1926—Stocks on Hand High as Imports Show Growth.

Rubber consumption in the United States in April, according to the monthly report of the Rubber Association when raised to a 100% basis, was 35,871 long tons. This figure compares with 36,141 long tons consumed in March and 32,696 long tons used in April last year. This consumption was slightly greater than had been expected although it was known that the rubber factories had operated almost as busily in April as in March.

During the first four months of this year consumption has totalled 133,667 tons as compared to only 128,964 tons for the corresponding period of last year. In addition, more reclaimed rubber is being used than ever before. The tire factories are continuing their high rate of production in May and another high consumption figure must be looked for. With the beginning of summer the usual slackening is expected.

In spite of the high consumption in April, rubber imports into the United States were still higher so that an addition was made to stocks on hand. The stock figure stood at 92,757 tons at the end of April as compared to 85,740 tons a month before. However, there was a smaller tonnage afloat to the United States, there being 38,963 tons so reported as compared to 49,600 tons at the end of March.

Total rubber imports in April were reported by the Rubber Association as 48,673 tons, a figure which checked closely with that arrived at in the rubber market several days before the Association's report appeared. The preliminary report of the Department of Commerce indicated April arrivals of only 46,026 tons, a discrepancy which was probably due to the non-inclusion of rubber cargoes which arrived on the last day of April and were carried over to May in the government tabulations.

New Hollister Plant

The Hollister Rubber Works, of Hollister, Calif., has recently acquired property on which the firm intends to erect a new one-story plant, 37x140 feet, estimated to cost about $28,000 with equipment. The company's executives are J. J. Held and T. F. Charves.

John K. Williams

John K. Williams, 71 years of age, founder of the Williams Foundry & Machine Co., and first vice-president of the India Tire & Rubber Co., both of Akron, shot and killed himself on May 9 near his Akron residence. He was born in Janesville, Wis.

HOOD RUBBER REPORT SHOWS BIG BUSINESS

Preliminary Figures of Annual Report for 1926 Reveal Sales in Units Largest on Record—Company Fails to Show Any Earning Power—Financial Position Good

Preliminary figures in the annual report of the Hood Rubber Co., of Watertown, Mass., for the year ending March 31, 1927, indicate that, in common with practically every rubber company in the country, Hood Rubber did a big business last year, but on account of the slump in the raw material markets, it was unable to show any earning power. The official figures of the report were submitted to the stockholders on May 19, but the following preliminary figures are sufficiently accurate to obtain a general conception of the company's business during 1926.

The gross sales totaled about $37,750,000, or only about $800,000 less than the record figures of $38,592,571 for the previous year. In units the volume was actually the largest on record. On March 31 of the present year, the raw materials in the Hood Rubber inventory were priced at cost, which was less than market value, and the manufactured goods were taken at the current replaceable factory cost basis with no allowance for overhead or selling expenses.

No Profits from Operations

Naturally the conservative inventory practices involving absorption of the entire deflation for one year, entailed heavy markdowns. Including the rebates on goods sold and kindred matters, these adjustments totaled over $4,000,000 and wiped out all profits from operations. The net loss before dividends was approximately $1,300,000 and the loss after dividends totaled $2,500,000, comparing with net profits in the 1926 fiscal year of $1,857,600, equivalent to $15.48 a share on 120,000 shares of no-par common stock, and with $818,400, or $6.82 a share in the March 31, 1925 fiscal year.

The financial position of the company is good, with a ratio of quick assets to liabilities of better than 4½ to 1. Inventory is down over $4,000,000 to about $11,700,000, and bank loans are below $4,000,000 as against $9,650,000 at the preceding year end. The total net quick assets are approximately $18,000,000, against $14,615,000 a year ago. With all of the deflation losses taken, the outlook for the company for the new year is encouraging. Tire sales are said to be 70% ahead of last year.

The crux of rubber company operations, and especially so last year, depends upon the treatment of inventory. How inventory is taken determines the complexion of the income account. Not withstanding the collapse in prices last year Hood management has continued to adhere to the conservative practice of taking its inventory at cost or market, whichever is lower. It has refused to temporize with the idea of spreading out the deflation readjustment and has taken its full dose of the medicine in the 1927 period.

Hood Rubber has regularly paid common stock dividend since 1913 even during the trying 1920-21 year. The stock is widely distributed and is widely owned by executives and employees. Under these conditions every effort will naturally be made to maintain the $4 rate. If the results of April and May operations are favorable, as estimates and conditions seem to forecast, it is probable that no change in the dividend policy will be made.

Goodyear Sales and Earnings

In connection with the flotation of a $60,000,000 issue of First Mortgage and Collateral Trust 5% Bonds by Dillon, Read & Co., the Goodyear Tire and Rubber Co. has disclosed that its consolidated net sales for the first quarter of this year amounted to $57,518,868 and that the consolidated net income for the same period was $6,421,335. Sales for the entire year 1926 were $230,161,356 and net income $14,467,734.

Late Stock Prices

	Last Price		1927	
	May 17	May 3	High	Low
Ajax	9⅞	10⅛	12⅜	9
Firestone	130	121	130	117
do 6% pfd.	105½	105	105½	101½
do 7% pfd.	101	100¼	101	98½
Fisk	17½	17¾	18¼	16
do 1st pfd.	85	87	87⅜	81
General	145	140	150	140
do pfd.	106	102½	106	99¼
Goodrich	55¼	56½	58¾	42¾
do pfd.	101½	100	103⅛	95
Goodyear Com.	51½	45	51½	29½
do pr. pfd.	110⅜	109¾	110½	104½
do pfd.	117	109½	117	98½
Hood	—	—	47	42½
India	25	26	30	28
Intercontinental	13½	13⅞	15¾	11½
Kelly Springfield	23⅜	23¾	24¾	9½
do 1st pfd.	—	—	70	44
do 8% pfd.	—	70½	70½	35
Lee	8⅛	8½	9	7
Miller	32	34	36⅜	32
do pfd.	102	101¼	104	100
Mohawk	—	—	25	15
do pfd.	—	—	65	65
Seiberling	24	23	24	21⅜
do pfd.	99	99	100	96
Star	—	2	2	2
U. S. Rubber	51¾	57	67⅛	57
do pfd.	103	106	111¼	106
U. S. Rubber Reclaiming	—	—	12	12
do pfd.	—	—	87	87

RUBBER STOCKS CLIMB TO NEW HIGH LEVELS

Goodyear and Firestone Make Steady Advance—U. S. Rubber Touches New Low—Seiberling Up 1/2 Point—Goodyear Pays Dividend on Preferred Stock.

The clearing up of all litigation proceedings against the Goodyear Tire & Rubber Co., in a peace treaty which was signed on May 15, paved the way for new high levels in the company's stocks, common reaching 51½ on May 17, preferred, 117, and prior preferred, 110⅞. The common had been strong for nearly two weeks on the prospect of the Goodyear difficulties being ironed out without resorting to a court trial. Since May 4, when the common stock was trading at 45¼, the advance has been fairly regular. Preferred and prior preferred stock has climbed similarly during the past twelve days.

Firestone and Seiberling have also gained on the market in the last fortnight, the former having advanced 9 points since May 4, the common reaching a new high of 130 on May 17. Seiberling common gained a half point, touching 24 on the same day. U. S. Rubber common, however, has moved contrary to other rubber stocks, this issue having been under pressure for several weeks as a result of reports that the company experienced rather sharp losses during the first three months of the year. The company's common dipped to 51 on the 16th, a new low for the year. In the bond market, however, the most conspicuous event in listed obligations was the rise of U. S. Rubber 5s, which advanced from 94 to 96½ on a large turnover.

Goodyear Declares Dividends

On May 11, Goodyear declared the regular quarterly dividends of $2 on the 8% cumulative prior preference stock and $1.75 on the 7% cumulative preferred, both payable July 1. During the first quarter of 1926, this company earned $3.90 a common share, this being the best quarter in its history, while the net results for the common for the entire year of 1926 were only $3.78 a share. Dillon, Read & Co., who have been appointed bankers for the company, announced on May 17 the formation of a nation wide banking syndicate which would market $60,000,000 5% bonds for the Goodyear company. It is felt by the bankers that this refinancing will materially improve the dividend position of both the preferred and common stocks, probably enabling the company to fund accumulated dividends of approximately $16,000,000 on the preferred issue.

APRIL INSPECTION OF RIMS SHOWS DECREASE

Tire and Rim Association Report Shows Increase in Balloon Rims but Big Decline in Clinchers—Grand Total Inspected for April 2,059,868.

The April report of the Tire and Rim Association of America, Inc., affords an interesting illustration of the continued increase in the production of balloon tire rims during the past four months, and the corresponding sharp decline in the production of clincher rims. As may be seen by the table hereunder, the number of balloon rims inspected by the Tire and Rim Association rose to 88% of all rims inspected by the Association in April.

The April report of the Association follows:

RIMS INSPECTED AND APPROVED

Rim Size	April 1927 Number	%	4 Mos. 1927 Number	%	4 Mos. 1926 Number	%
Motorcycle						
24x3	5,567	0.3	11,920	0.2	15,424	0.2
26x3	2,212	0.1	8,994	0.1	34,336	0.4
28x3	781	0.0	781	0.0	2,337	0.0
Clinchers						
30x3-24	—	—	—	—	1,244	0.0
30x3½-23	39,117	1.4	296,255	4.0	1,379,187	15.5
31x4-23	3,125	0.1	9,828	0.1	15,609	0.2
Balloons						
25x3½-18	100	0.0	100	0.0	722	0.0
26x4-18	115,126	5.6	319,076	4.3	—	—
27x4½-18	788	0.0	14,156	0.2	—	—
28x5-18	180	0.0	242	0.0	—	—
26x3½-19	75,950	3.7	197,980	2.7	542	0.0
27x4-19	32,340	1.5	95,976	1.3	—	—
28x4½-19	34,772	1.7	178,828	2.4	—	—
29x5-19	106	0.0	1,177	0.0	—	—
27x3½-20	41,665	2.0	80,684	1.1	26	—
28x4-20	317,601	15.4	997,051	13.5	982,681	11.0
29x4½-20	45,367	2.4	134,402	1.8	188,968	2.1
30x5-20	27,098	1.3	83,840	1.1	110,548	1.3
28x3½-21	703,887	34.4	2,468,648	33.1	3,426,364	38.5
29x4-21	236,070	11.5	992,803	13.5	1,171,345	13.1
30x4½-21	158,080	7.7	503,961	6.8	652,650	7.3
31x5-21	11,410	0.5	82,414	1.1	176,392	2.0
33x6-21	5,472	0.3	27,434	0.4	50,692	0.6
29x3½-22	146	0.0	146	0.0	—	—
30x4-22	296	0.0	2,483	0.0	2,715	0.0
31x4½-22	350	0.0	4,055	0.1	15,585	0.2
High Pressure						
30x3½-23	6,538	0.3	35,335	0.5	55,790	0.6
31x4-23	1,991	0.1	1,991	0.0	6,177	0.1
32x4½-23	17,842	0.9	77,077	1.5	162,242	1.8
32x4-24	7,592	0.4	52,423	0.7	76,182	0.9
33x4½-24	—	—	395	0.0	496	0.0
32x3½-25	—	—	2,196	0.0	2,354	0.0
33x4-25	—	—	1,618	0.0	3,470	0.0
34x4½-25	4,478	0.2	10,663	0.1	7,210	0.1
Truck						
30x5-20	126,634	6.4	552,068	7.5	209,737	2.4
32x6-20	17,480	0.8	65,029	0.9	76,760	0.8
34x7-20	6,034	0.3	19,950	0.3	13,218	0.2
36x8-20	1,568	0.1	4,846	0.1	3,587	0.0
40x10-20	—	—	303	0.0	80	0.0
36x7-22	254	0.0	696	0.0	1,056	0.0
34x5-24	3,594	0.2	13,049	0.2	14,717	0.2
36x6-24	6,150	0.3	13,043	0.2	34,730	0.4
38x7-24	2,107	0.1	5,306	0.1	7,499	0.1
40x8-24	—	—	4,888	0.1	3,582	0.0
44x10-24	—	—	—	—	301	0.0
Totals	2,059,868		7,374,010		8,906,595	

Recapitulation:			
Motorcycle	0.4	0.3	0.6
Clinchers	1.5	4.1	15.7
Balloons	88.0	83.4	76.1
High Pressure	1.9	2.8	3.5
Truck	8.2	9.4	4.1

C. E. BISHOP

As a Consulting Engineer in the Reclamation and Conservation of Rubber, Mr. Bishop Heads the Bishop Engineering Corp. at Akron. He is Author of the Series of Articles on Reclaimed Rubber Now Running in The Rubber Age.

NEW OFFICERS ELECTED BY PENNA. RUBBER CO.

A. H. Price, who has been serving as treasurer of the Pennsylvania Rubber Co., Jeanette, Pa., has been elected vice-president of the company to succeed George W. Daum who resigned recently. In addition to assuming the vice-presidency, Mr. Price will continue to act as treasurer. Mr. Daum was also known as general manager of the company but that title has not been given to anyone following his resignation.

The complete list of Pennsylvania officials is now as follows: President, Herbert DuPuy; vice-president and treasurer, A. H. Price; assistant to the president, D. M. Mason; secretary, G. W. Shiveley; and assistant treasurer, C. G. Morrill.

Mr. Mason has recently become actively identified with work at the Pennsylvania factory. He was an official of the Mason Tire & Rubber Co., Kent, O., until about three years ago.

Sues Shunk Rubber Firm

An injunction restraining the D. L. Shunk Rubber Co., of Barberton, O., from using a patented rubber process was requested in the Cleveland Federal Court recently by Perry Stevens, a resident of Akron. The company is alleged to be using a process for turning a ring on certain rubber goods the patent for which is claimed by Mr. Stevens.

John McKee, Jr., of Dallas, Tex., has been appointed Cleveland branch manager of the Mason Tire & Rubber Co., of Kent, O. He was branch manager of the same organization in Dallas.

TIRES AND TUBES GAIN IN MARCH PRODUCTION

Report of Rubber Association Shows 2% Gain in Production of Casings and 2.8% Gain in Tubes—Balloon Demand Continues to Grow Month after Month.

Manufacturers of casings and tubes suffered no let down in production during March, according to the regular monthly statistics compiled by the Rubber Association of America, Inc. On the contrary, these figures reveal a steady gain in all types of casings and tubes, with production, inventory and shipments on an upward trend. On a 100% basis, March production of casings totaled 6,276,896 in comparison to the February total of 5,095,970. Inventories of casings at the end of March stood at 11,583,082 with February inventories totaling 11,075,089. Shipments of casings in March were 5,701,476 in comparison to 4,458,761 in February.

Inventory, production and shipments of tubes of all types were also increased during March. Inner tube production on a 100% basis during March totaled 7,184,416 compared with the February total of 5,658,977. Total shipments of inner tubes throughout March were 6,157,820 in comparison to February shipments of 5,120,325. February inventories were 16,075,665 while March inventories of inner tubes were 17,096,005.

Balloon casings and inner tubes of all types show a similar increase during March. Casings show a gain of 1.4% over February, and inner tubes, 1.8%. March production of high pressure cord casings and inner tubes, as well as solid and cushion tires, shows an increase over February.

Akron reports that April production of casings and tubes was upwards of 50% ahead of business in the corresponding month of last year, and that output by several of the big companies has equalled, if not surpassed, the high records made in March of this year. A total production of about 3,500,000 casings and over 4,000,000 tubes is estimated for Akron companies in April.

February and March figures of the Rubber Association, raised to 100%, are as follows:

	February, 1927	March, 1927
Pneumatic Casings—		
Inventory	11,075,089	11,583,082
Production	5,095,970	6,276,896
Shipments	4,458,761	5,701,476
Inner Tubes—		
Inventory	16,075,665	17,096,005
Production	5,658,977	7,184,416
Shipments	5,120,325	6,157,820

New Unit for Gates Rubber

The Gates Rubber Co., Denver, Colo., started capacity production early this month in a new factory unit erected and equipped under supervision of Herbert King, formerly with the Goodyear Tire & Rubber Co., Akron. This entire building is devoted exclusively to the manufacture of braided garden hose.

MODEL RUBBER YACHTS MADE BY ACUSHNET CO.

The Acushnet Process Co., reclaimed rubber manufacturers of New Bedford, Mass., are producing a line of toy boats modelled after famous racing yachts, or sailing craft of special design. The hulls of these boats are made of hard rubber, and are sold in various sizes and shapes. In addition to the yachts, the company is manufacturing small bath-tub boats of soft rubber modelled after motor cruisers, and also canoe models.

The Acushnet Process Co., was started for the purpose of recovering the rubber from trimmings and scrap of rubber-impregnated fabrics in the large tire factories. Most of this recovery work is performed on a commission or contract basis, the material at all times being the property of the consumer. But this reclaiming department is entirely separate from that in which the company manufactures its own rubber goods, which include, beside the toy boats, sundry druggists' articles of hard and soft rubber, bathing caps and soft rubber golf tees. These articles are made entirely of new rubber.

Remilling Dutch Rubber

Facilities for re-milling Dutch East Indian native rubber in those islands instead of shipping it to Singapore for treatment are now being provided as planned last year. According to the U. S. Department of Commerce, the Palembang mill, which has a permissible capacity of 4,500 tons per annum, is now in full operation and its first product is enroute to the United States market. Concessions for other mills have been granted as follows: Rengat, 3,000 tons per annum; Bandjermasin, 7,500 tons; and Djambi, 7,500 tons. Other concessions are expected to be granted.

Nearly 10,000,000 Trees

Planting has been going forward so rapidly on the United States Rubber Company's plantations in Sumatra and Malaya during the last year or two that the number of rubber trees now under cultivation is a little more than 9,900,000. If arranged in a straight line, each tree twenty feet from the next, the line of trees would reach exactly one and one-half times around the earth. This rubber plantation project has no close competitors from the standpoint of size.

Rubber Freight Movement

Following a recent meeting in Detroit, automotive traffic managers announced that the total automotive freight shipped on the railroads in 1926 had amounted to 3,280,000 carloads. In addition to the strictly automotive freight, the movement of related commodities was also estimated. In such a list the traffic managers put automobile tires down for 55,000 carloads and crude rubber for 15,600 carloads.

RAINCOAT RETURNED AFTER TWENTY YEARS

Recently the Chicago Rubber Company of Racine, Wisconsin, had returned to them a double texture mackintosh coat with sewed, strapped and cemented seams which had been made in the factory in 1903. The coat was returned as a sample for a new coat of the same size.

Although parts of the coat were worn through to the lining, the strapping and cementing were said to be as tight as the day it left the factory over twenty years ago, which affords an interesting commentary on the opinion occasionally expressed that rubber articles do not last.

Mohawk Tourist Guides

The Mohawk Rubber Co., of Akron is adding three new tourist guides to its Mohawk-Hobbs series. Eighteen separate guides covering principal routes throughout the United States have already been published and are distributed by Mohawk dealers. The new guides which are to be added during the present season are "Custer Battlefield Hiway and Lincoln Highway Connection," "Lincoln Highway, East," and "New York-Montreal Tour." Certain of the older numbers of the series will also be revised.

Dayton Rubber Sales Up

Unit sales of the Dayton Rubber Manufacturing Co., of Dayton, O., for the first quarter of 1927 were 275% greater than for the corresponding period last year, according to John A. MacMillan, president and general manager of the firm. "A factor entering into the general sales stimulation, which has increased our business," Mr. MacMillan said, "was the general decrease in tire prices over last year. During 1926 prices were high and the public slow in buying. Now lower prices and a general feeling that a raise may come has stimulated sales."

Henry S. Marlor Promoted

Henry S. Marlor, factory manager of the Woonsocket and Millville plants of the United States Rubber Co., was recently promoted to the post of supervisor of the footwear division of the company. He will have his main offices at New Haven, Conn. Mr. Marlor was factory manager of the Woonsocket and Millville plants for seven years, and was succeeded by J. D. Wilmot, factory manager of the Boston Rubber Shoe Co., a subsidiary of the U. S. Rubber Co.

Saturday Shifts Adopted

The Goodyear Tire & Rubber Co., of Akron, has adopted in its production departments a schedule of two five-hour shifts on Saturdays. This change was adopted for the warm weather and has gone into effect despite the fact that the company's production is at a high rate.

GENERAL MOTORS' NET SALES $291,448,824

The report of the General Motors Corporation for the first quarter of 1927 shows net sales of $291,448,824, against $235,858,294 for the first quarter of 1926, a net increase of $55,590,530. Dealers' sales to users were 329,310 cars, compared with 224,720 for the corresponding period in 1926, an increase of 46%. General Motors' sales to dealers were 385,703 cars, compared with 280,986, an increase of 37%.

Alfred P. Sloan, president of General Motors, is quoted as saying: "Net earnings of General Motors Corporation applicable to dividends, including equities in the undivided profits of subsidiary operations, for the first quarter ending on March 31, 1927, were $52,551,408. This compares with $44,911,618 for the corresponding period a year ago—an increase of $7,639,790. Current conditions are satisfactory."

Total assets March 31 were $970,745,574, against $920,894,106 December 31, 1926, an increase of almost $50,000,000. The current and working assets were $31,000,000 higher, and fixed assets were $19,000,000 higher, the chief increase being in inventories and plants and equipment.

The General Motors Corporation recently signed a contract with the city of Stockholm, Sweden, for the erection of an assembly plant in that city. The plant will have a capacity of 6,000 automobiles yearly.

Michelin Leads in Europe

Figures published by the Michelin Tire Company show how the tire business in Europe is concentrated in a few hands, principally Michelin's. It is stated that Michelin alone makes 82% of all the tires sold in France, 69% of those sold in Belgium, 58% in Austria, 67% in Italy, 34% in the British Isles, 74% in Portugal and 65% in Spain. Michelin's trade outside Europe is also strong, the company having 51% of the Brazilian tire trade, for instance.

New Whiting Introduced

The J. E. Baker Company of York, Pa., is marketing a whiting made from white marble for use in rubber compounding. This concern is a well-known manufacturer of lime and shipper of stone. It has quarries at Bainbridge, Pa., Williamson, Pa., Thomasville, Pa., Union Quarries, Pa., Bunker Hill, W. Va., and Blue Mount, Md. J. E. Baker is president.

Tuttle Recovering

John B. Tuttle, well-known consulting rubber chemist, has returned to his laboratory at 121 Harris Ave., Long Island City, N. Y., after being in a hospital for six weeks due to an attack of appendicitis.

"Reclaimed Rubber should not contain any material which rubber manufacturers would not use in their compounds"

Statement of one of the largest rubber manufacturers in the U. S.

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Zinc Stearate

SAYS RECORD OUTPUT MEANS LOWER QUALITY

The present tendency of American tire factories to strive for record productions within certain periods of time is deplored in a statement by which Wm. O'Neil has informed the distributors of General tires that the General Tire and Rubber Company is taking no part in the contest. The increase in speed which lies behind record productions can only mean a decrease in care and therefore in tire quality, in Mr. O'Neil's opinion. His statement reports the fact that on one day recently an operative in an Akron tire plant earned exactly twice as much as he ordinarily earns in a full working day. Since the operative must have performed just twice as many operations on that day as he does on other days, Mr. O'Neil holds that some sacrifice of quality was inescapable.

CANADA EXPORTS MORE CASINGS AND TUBES

Canadian exports of casings and inner tubes have shown a steady increase in the last three years, according to statistics recently published by the Department of Commerce. During the first three months of 1927 Canadian exports of casings numbered 498,422, as compared to 305,817 in the first quarter of 1926 and 208,012 in the same period of 1925. Exports of inner tubes amounted to 519,524 during the first three months of 1927, 329,082 in the first quarter of 1926 and 236,935 in the same period of 1925. The total value of casings exported in the first three months of the current year was $4,952,892. The total value of inner tubes exported in the same period was $862,928.

In the case of rubber footwear the exports from Canada during the first quarter of 1927 were materially less than in the corresponding quarter of 1926. Exports of rubber boots and shoes to foreign countries in the first quarter of 1927 numbered 201,710 pairs, as compared to 380,849 pairs in the same period of 1926. Canvas rubber-soled footwear shipments during the first quarter of 1927 were, however, slightly greater than shipments in the same period of 1926. The total shipments in the first three months of 1927 amounted to 1,237,096 pairs as compared to 1,097,735 pairs in the same period of 1926.

SPADONE TO BRING OUT NEW LINE OF MACHINES

The Spadone Machine Company, New York City, manufacturers of the Bolton Bias Cutter, have recently announced that they will place on the market a number of machines for use in hose and belting factories. The machines for hose plants will include a hose cross-wrapping machine, a device for automatically winding the wrapping tape on the hose. Another improvement is a hose gun for stripping rubber hose from mandrels after curing.

The apparatus for belting plants consists of an attachment for handling the bars used in molding cushion surface belts, tiling, etc. This apparatus overcomes the necessity of wedging in these bars as is done in the present method of manufacture. The other machine which will be introduced very shortly is a press cleaning machine which cleans belt presses in one or two hours instead of the much longer period now taken to clean such presses.

Gates Increases Output

A new unit in the factory of the Gates Rubber Company of Denver, Colo., is being used for the manufacture of an entire line of hose, including garden, steam, welding, air brake and other types of wrapped and braided construction. The company has also announced two new tire accessory products which are manufactured from selected skived tire fabric stock.

CLEVELAND LINER ADDS MORE SPACE TO PLANT

Another building has recently been added to the plant of the Cleveland Liner & Manufacturing Co., 5508 Maurice Ave., Cleveland, to take care of increasing need for manufacturing and shipping facilities. The new addition is at the rear of the existing building and will be used to replace the old shipping and storage space. The space formerly used for the shipping department now becomes a part of the factory proper and will be used for some of the operations in producing Blue Processed Liners and the company's new paper liner "Linerette." F. A. Pope is president.

MOSELEY MARKETS NEW PNEUMATIC UPHOLSTERY

David Moseley & Sons, Ltd., Manchester, Eng., rubber manufacturers better known for their "Cable" tires, have recently marketed and are advertising "Float On Air" patented pneumatic upholstery for automobiles. The cushions are claimed to be totally unlike any other form of pneumatic construction, as the tubular construction allows a very low air-pressure to be used, producing a soft cushion entirely free from rebound. The cushions are also said to be lighter and cleaner and to keep their shapes better than ordinary cushions.

Cushions are not only furnished for converting existing seats to pneumatic ones, but new pneumatic seats in plain-finished imitation leather are also supplied.

The cushions are being advertised extensively in British papers covering the motor field.

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STEVENSON MEMORIAL FUND REACHES GOAL

The April bulletin of the Rubber Growers' Association announces that a memorial fund to the late Lord Stevenson, created by donations from members of the Association, has been closed, the fund having reached £2,823 or about $14,000. The fund will be employed to maintain a memorial scholarship in Loretto School, Scotland, and will be given to boys whose fathers have rendered any considerable public service, but whose means are insufficient to provide for their children's education. The Rubber Growers' Association fostered the establishment of this fund in a circular published in January, 1927. Lord Stevenson, who died in June, 1926, was the author of the British restriction law limiting the exportation of rubber from British Malaya and Ceylon.

Delegates Visit Akron

W. O. Rutherford, Goodrich vice-president, was chairman of the committee which handled the visit of 50 South and Central American business men to Akron on May 18. The visitors had been delegates at the Pan-American Congress in Washington and included Akron among the industrial cities to which they travelled before returning home. Mr. Rutherford's committee arranged for the Latin-American visitors to go through several of the Akron rubber factories.

Mason Manager Visits West

C. H. Williams, sales manager of the Mason Tire & Rubber Co., Kent, O., recently visited the Pacific coast inspecting the Mason branches in Seattle, Portland, San Francisco and Los Angeles. He was accompanied on his tour by Harvey B. Stout, southern division manager.

William Hillman

William Hillman, for many years a rubber manufacturer in New York, died in Grand Rapids, Mich., on May 8. He was born in New York in 1861. After being manager of the New York branch of the Revere Rubber Co., of Boston, he became vice-president and general manager of the Peerless Rubber Manufacturing Co. His home was in Mount Vernon, N. Y.

Crown Increases Capital

Capital stock of the Crown Rubber Company, Omaha, Neb., manufacturer of tires and tubes, has been increased from $450,000 to $600,000, according to George Tunison, president. None of the new stock will be placed on the market, he said, but the additional capital will be used to develop the factory. The Crown company, which occupies the former plant of the Sprague Rubber Company, began operations in September, 1926. Mr. Tunison is also president of the Overland Trail Rubber Company.

CANNED TENNIS BALLS

Tennis balls manufactured by the Pennsylvania Rubber Company of Jeanette, Pa., are packed in cans for the retail trade. It is said that canning tennis balls in hermetically sealed cans preserves the liveliness of the balls in any climate for an indefinite period. The pressure inside the balls, which is the reason for their liveliness, is balanced by gas under pressure in the containers. The cans open with a key. According to the Pennsylvania company the balls are covered with wear-resisting Australian wool felt, and, under the pressure packing system, elimination of dead, unplayable balls is practically certain.

AUTO EXPORTS ALMOST 10% OF PRODUCTION

The United States automobile industry exported nearly 10% of its entire production during March, 1927, setting a new high mark in passenger car exports which totaled 29,985 units. This, together with truck exports numbering 7,648 units, sets an export record of 37,631 units for a single month. Combined exports during the first quarter of the current year amounted to 98,932, compared with 82,496 units for the corresponding period of 1926. The ratio of passenger car exports to production was 8.8% and trucks 16.7%, the combined ratio of total exports to production being 9.7%. Unit value of passenger car shipments dropped from $737 for February to $712 for March, while the unit truck value of $636 was an increase over the $595 for February.

Mohawk Renames Cord Tire

In order definitely to mark the distinction between the Mohawk Cord and the Mohawk Heavy Duty tires, in 3½ and 4 inch sizes, the Mohawk Rubber Co., of Akron has renamed the former line "Morco Cord." To make the distinction still more apparent, the familiar yellow stripe has also been removed from the Morco Cord.

I. L. Miller Retires

I. L. Miller who has been secretary, foreign sales manager and director of purchases of the Faultless Rubber Co., of Ashland, O., asked to be relieved of these duties at a director's meeting held April 22. He will, however, retain his membership on the board of directors. Mr. Miller has been associated with the Faultless company for 27 years.

Firestone Float

A float representing a giant replica of a Firestone balloon tire as manufactured by the Firestone Tire & Rubber Co., is reported to have made a hit at the recent carnival held in Havana, Cuba.

AETNA SALES FOR 1926 MORE THAN $2,000,000

Sales of the Aetna Rubber Co., of Cleveland, totaled $2,197,147 for 1926, which compares with total sales of $2,291,319 in 1925, and $749,797 in 1922. Common capital was increased in 1926 to 100,000 shares and a 900% stock dividend declared, holders of one share receiving nine additional shares, leaving 30,000 shares in the treasury. Dividends aggregating $655,231 were paid from 1922 to 1926 inclusive, and after preferred and common dividend for the first quarter of 1927, the surplus on March 31 totaled $325,772.

Net earnings for the first quarter of this year, after preferred dividends, were equivalent to 60½ cents a share. The Aetna company has been in existence since May, 1919, when it was acquired by a group of Cleveland men from K. E. Lyman. Since then the Cleveland plant has been enlarged and another plant built in Ashtabula. S. T. Campbell is president. The Aetna company manufactures battery boxes and hard and soft molded goods.

Rubber Experiments in Cuba

Five thousand Hevea seeds have been brought from Haiti to Cuba and planted experimentally within the last few months. According to W. L. Shurz, the economic advisor to the Cuban government, the experiment is proceeding satisfactorily. It is believed in Cuba that rubber might serve as a complementary crop in certain parts of the island, particularly in Oriente. The small stand of Hevea trees in the Agricultural Experiment Station at Santiago de las Vegas near Havana was almost totally destroyed by a hurricane last October.

Bridgwater Plant Busy

The excellent business conditions which have prevailed in the tire industry during the past few months have served to keep Akron machine shops very busy. The Bridgwater Machine Company reports that its shop is running almost to capacity on tire building and special machinery and that its sales of India cores are expected to be double those of last year.

Dutch Get Cable Contract

The municipal corporation of Mansfield, England, has accepted the tender of the Netherlands Cable Works, Ltd., for supplying low-tension cables needed by the city. It is stated that this will mean a saving of £400 ($2,000) per annum to the ratepayers. Councillor F. Hardy, chairman of the Electricity Committee, said that the council had let the contract to the Dutch company because it was the only way to make English manufacturers come to their senses and put their goods on the market at competitive prices.

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2—Birmingham 54″ Mills.
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1—Farrel 18″x48″ 3-roll Calender.
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Buys Vulcan Rubber Plant

The Brotherhood of Locomotive Engineers Bank of Cleveland, Ohio, through its representative, Leonard Dudley, bought the property of the Vulcan Rubber Co., Erie, Pa., on a foreclosure proceeding. The bank's representative bid $7,668.70 which was the amount of the costs in the proceedings. Claims totaled $459,594, according to reports of the court. A mortgage in the amount of $500,000 was foreclosed against the property of the Vulcan company about a month ago by George B. Winegerter. The company manufactured tubes, battery boxes and radio parts.

Advertising Agent Moves

Edward S. Kahn, advertising agent of Akron, O., has recently moved from 224 Oakdale Avenue to 523 Ohio Building. Mr. Kahn is handling the advertising of the Akron Rubber Mold and Machine Company and the C. P. Hall Company.

New Rubber Mat Co.

A charter has been granted to the Cushion Link Rubbermat Co., Inc., of New York, with capital of $5,000. Subscribers and directors are Gustave Edwards, Herbert C. Schleicher and Charles Lytle. The company will manufacture rubber mats.

New Jersey Zinc's Profit

The New Jersey Zinc Co., of New York, reports a net income of $1,769,480 after taxes, depreciation and other charges, in the first quarter of 1927, equal to $3.60 a share earned on 490,816 shares of capital stock. This compares with $2,074,100, or $4.22 a share earned in the previous quarter, and with $1,683,896, or $3.43 a share earned in the first quarter of 1926. Net earnings in 1927 included a $600,000 dividend from the Tulsa Fuel and Manufacturing Co., in process of liquidation.

Quinn Back from Singapore

J. J. Quinn, manager of the Goodyear Tire & Rubber Co.'s warehouse in Singapore, is enjoying a brief visit in Akron before returning to his duties in the Far Eastern port. He has been with the Goodyear company 12 years, starting in the crude rubber department in 1915. In 1920 he went to the California factory and two years later was appointed to the Singapore post.

Rubber Co.'s Profits Up

The Manufactured Rubber Co., of Philadelphia, reports for the year ended December 31, 1926, net profits of $37,228, after charges. This compares with profits of $36,211 in the preceding year. The company manufactures reclaimed rubber.

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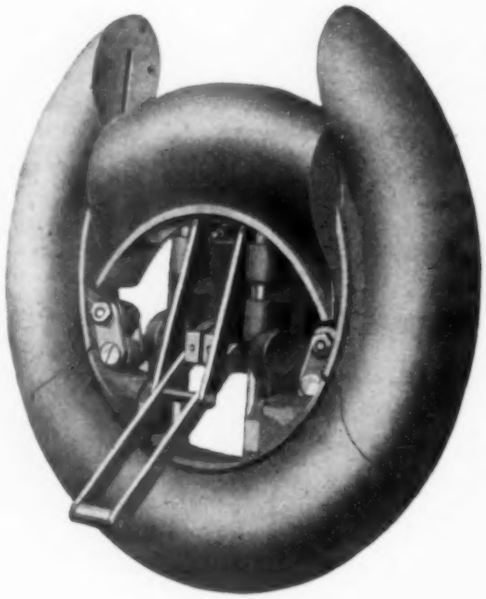

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A Class by Themselves

THE INVESTMENT trust has been a common form of financial organization in England for many years and in the last decade it has spread to the United States where its popularity is increasing. The investment trust is designed to give to investors, particularly to small ones, the advantages of participation in a diversified investment which might otherwise be entirely impossible. The investor holds shares in the investment trust; the trust in turn holds shares in a large number of industrial organizations.

One of the New York investment trusts has recently published a complete list of the American companies in which it holds common stock on behalf of its shareholders. These companies were selected for their steady growth, earning power, dividend records and the soundness of their policies in building up surpluses and reserves. In the list there appear representatives of almost all American industries, both large and small—except rubber. It is interesting and significant that while the executives of this investment trust have bought shares in all sorts of concerns, from the Coca-Cola Company to the United States Steel Corporation, not one rubber company is represented in their extensive list.

It is certain that rubber company stocks were not rejected because the companies have not shown satisfactory growth, for the expansion of the leading rubber companies in the last decade has been nothing short of amazing. Likewise, they could not have been rejected on the basis of inadequate reserves or surpluses, for the conservative habits of the rubber companies in that regard are well known. It is plainly on the trust's other requirements that the rubber companies fall short, namely, earning power and dividend records. On this basis there was evidently not a single rubber company which could be ranked along side the one hundred companies which represented almost every other American industry.

This instance merely brings fresh emphasis of the poor profit position of the rubber industry. Less than two years ago we had Congressional howlings over the greediness of the rubber companies but nevertheless, those companies do not seem to have gotten into the same prosperity class with the railroads, the motor companies, the packers and so on. There has been too much "dog eat dog" for that to happen. It will be time some of these days for the rubber industry to begin to be good to itself.

The Land of Cotton

THE LAST issue of this journal carried another story about a tire fabric mill being established in the South. Such stories have been frequent lately. Quite often it is a New England cotton mill that is moving southward, much to the discomfort of Massachusetts and her neighboring states. The coarser and heavier cotton constructions have been manufactured in the Southern states for some time and apparently tire fabric manufacture is eventually to be concentrated there. New England is more successful in retaining the business in the finer constructions.

The South has several advantages. Its mills are of course nearer the source of supply of the raw material. Most of the machinery used is more modern and efficient than the equipment still maintained in New England mills. The South has been freer from labor troubles. Its wage scale is considerably lower than that of New England. The hours of work are longer and there are fewer laws restricting the employment of women and children. The tax burden is lighter in the South. All these considerations have had the inevitable effect of attracting the mills southward. The amount of cotton consumed in southern mills now exceeds that used in New England.

The South expects, as a part of its industrial expansion, to capture a larger part of tire manufacturing one of these days. The Southern states have rolled up large automotive registrations. There were four of them which showed a gain of more than fifteen per cent last year. In addition to having this expanding market at their doors, tire factories in the South would have their fabric almost at hand as well as important rubber ports nearby. Still further, they would have the same industrial advantages that have made it worth while for the fabric mills to migrate in that direction. The next decade may show the results of this set of conditions.

The Age of Executives

A SURVEY conducted by a business school has revealed the fact that the administration of this country's leading business and industrial organizations is in the hands of men whose average age is about sixty years. The youngest executives, as a group, were found in the field of pure banking, while the financiers were the oldest. In between these two came other groups including those in charge of manufacturing. Among the industrial organizations the average age of presidents was 59½ years and of vice-presidents, 57½. It is interesting to reflect for a moment how the executives of the rubber industry would be placed in such a comparison. It is doubtful if much difference would be apparent for although the industry has many outstanding examples of young men successfully handling high positions, it also has its full complement of executives who bring to the industry the wisdom and discretion of many decades of training.

Better Inner Tubes at no higher cost

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Exceptionally good tear resistance

Long range of cure

Complete freedom from scorching

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Vulcanization-Resistant Dyes For Dyeing Rubber Latex

Careful and Rigorous Testing Is The Only Way To Prove The Suitability of Particular Dyestuffs for This New Purpose

IN CONNECTION with the present use of rubber latex in the manufacture of dipped rubber merchandise, water-insoluble pastes and coated rubberware it often becomes necessary to dye the latex in colors that are resistant to the temperatures and re-agents employed in the vulcanization process. This refers principally to vulcanization with the aid of sulphur chloride, S_2Cl_2. The Badische Anilin & Soda Fabrik have made a study of this matter and have been able to determine that a large number of the dyestuffs which they manufacture are suitable for this purpose. The author has also made a number of studies in this subject and has experimentally investigated a number of dyestuffs to determine their resistance to vulcanization. The results of this study are given in this article.

The first step in the investigation was a qualitative study to determine whether the dyestuff was completely soluble in the rubber latex. Qualitative tests were also made to establish the manner in which the dyestuff dyed the latex, and the behaviour of the dried film of colored rubber under vulcanization with sulphur chloride. Investigations were then made to determine whether the vulcanized colored rubber film would yield its color again to water, which is of course an important consideration in rubber merchandise which is employed in water.

Qualifications for Suitable Dyestuffs

In this way these principles were established as to the suitability of dyestuffs for dyeing latex: A dyestuff which can correctly be said to be well-suited for the coloring of rubber latex is one that is easily soluble in latex, that will cover the latex well (meaning that its dyeing properties are strong), that will be resistant to the temperatures and reagents employed in both the cold and the hot vulcanization processes and, finally, that will not be dissolved out of the vulcanized rubber when it comes into contact with water.

The results of the investigations in connection with particular dyestuffs are given in the tabulation on this page.

It should be mentioned here that the Hevea latex used in these experiments had a rubber content of thirty eight per cent and had been preserved by addition of one and one-half per cent of ammonia. Hence these results must be construed as indicating that the dyestuffs were also resistant or non-resistant to ammonia. Careful study of these results leads to the conclusion that in certain instances the color that is obtained after vulcanization with the aid of sulphur chloride in vapor form was irreversible on coming in contact with water. Thus it must follow that the rubber has formed a colloidal protective coating around the particles of dyestuff.

According to this qualitative testing of various dyestuffs for the dyeing of rubber latex, it is clear that there are only a few colors which can be used for this purpose. These few colors have been further examined and classified according to their usefulness. This test was conducted in the following manner. Twenty cubic centimeters of rubber latex were mixed with 0.05 gram of the dyestuff. The mixture was vigorously shaken and the dyestuff was then allowed to settle out from the mixture. The colored rubber latex was then investigated further in exactly the same manner as indicated in the foregoing table of qualitative results. This was done after the colored rubber latex had been poured off from the deposited dystuff. The results that were obtained in this series of tests are given in the table on the next page.

RESULTS OF TESTS WITH PARTICULAR DYESTUFFS

No.	*Dyestuff*	*Solubility in latex*	*Covering power*	*Behaviour of dyed film towards S_2Cl_2*	*Behaviour of film towards water after vulcanization*	*Suitability of the dyestuff*
1.	Indanthrene yellow GK paste	difficultly soluble	not great	unstable	.....	not suitable
2.	Anthrazurol R paste	difficultly soluble	average, coagulates with rubber	unresistant	.....	not suitable
3.	Indanthrene yellow R paste	easily soluble	good	resistant	little loss of color	suitable, but not to highest degree
4.	Gallocyanin D extra paste	easily soluble	average	non-resistant	.....	not suitable
5.	Anthraquinone blue SR extra paste	slowly soluble	very high	moderately resistant	almost no loss of color	suitable
6.	Anthraquinone blue green BXO powder	easily soluble	very high	moderately resistant	entirely stable	very suitable deep blue color
7.	Anthraquinone green GXNO powder	difficultly soluble	good	non-resistant	.....	unsuited
8.	Cotton yellow G extra	slowly soluble	bad	non-resistant	.....	unsuited
9.	Oxamine light Green G	easily soluble	medium	non-resistant	.....	unsuited
10.	Primazin yellow G extra	easily soluble	good	non-resistant	.....	unsuited
11.	Zapon blue R powder	difficultly soluble	bad	non-resistant	.....	unsuited
12.	Oxamine pure blue 6B highly concentrated	very easily soluble	maximum	moderately resistant	slight loss of color	well suited very intense color
13.	Zapon blue G powder	difficultly soluble	slight	resistant	resistant	unsuited
14.	Pyramin yellow G extra	soluble	good	resistant	resistant	suitable
15.	Cero blue	difficultly soluble	bad	non-resistant	.....	unsuitable
16.	Stilbene 3GX	easily soluble	good	resistant	resistant	suitable
17.	Saturn yellow 3G	easily soluble	good	resistant	resistant	unsuited
18.	Oxamine yellow 3G	difficultly soluble	medium	resistant	resistant	suitable
19.	Anthraquinone violet powder	easily soluble	very good	excellent resistance	resistant	suitable

*Results of tests made by Dr. Rudolf Ditmar and reported by him in *Chemiker Zeitung*, published in Germany.

FIRST TREATMENT OF THE VULCANIZATION—RESISTANT DYES WITH LATEX

No.	*Dyestuff*	*Solubility in latex*	*Covering power*	*Behaviour of film towards S_2Cl_2 vulcanization*	*Behaviour of vulcanizate towards water*	*Usefulness*
3.	Indanthrene yellow R paste	easily soluble	slight	resistant	insoluble	too little covering power
5.	Anthraquinone blue SR extra paste	easily soluble	very intense green	resistant	insoluble	very good
6.	Anthraquinone blue green BXO	easily soluble	very good	stable	insoluble	good
12.	Oxamine pure blue 6B high concentration	easily soluble	very good	stable	insoluble	good
13.	Zapon blue G powder	difficultly soluble	average	unstable	soluble	very good
14.	Pyramin yellow G extra	easily soluble	very good	stable	insoluble	unusable
16.	Stilbene yellow 3GX	easily soluble	very good	stable	insoluble	very good
17.	Saturn yellow 3G	easily soluble	average	stable	insoluble	color changes
18.	Oxamin yellow 3G	easily soluble	good	stable	insoluble	does not color
19.	Anthraquinone violet powder	easily soluble	very good	stable	insoluble	does not color

The dyestuff which remains behind and which has been precipitated is then agitated with twenty cubic centimeters of rubber latex and again allowed to settle. The dyed latex is examined in the same manner as has been described above. The residual dyestuff was then again shaken with twenty cubic centimeters of rubber latex until it has been finally exhausted. The results of these experiments are given in the following tabulation.

RESULTS OF TESTS WITH RESIDUAL DYESTUFFS

No.	*Dyestuffs*	*Observations*	*Usefulness*
3.	Indanthrene yellow R paste	A deposit is left after one shaking which then does not dye additional quantities of rubber latex	unusable
5.	Anthraquinone blue SR extra paste	After two shakings, a deposit is left which does not color latex	unusable
6.	Anthraquinone blue green BXO	After three shakings, a deposit is left which does not color latex	unusable
12.	Oxamine pure blue 6B high concentration	After four shakings, a deposit is left which does not color latex	usable
13.	Zapon blue B powder		unusable
14.	Pyramin yellow G extra	Colors further after six shakings	usable
16.	Stilbene yellow 3GX	Colors after seven shakings	usable
17.	Saturn yellow 3G	Does not color after eight shakings	unusable
18.	Oxamine yellow 3G	Colors no longer after nine shakings	unusable
19.	Anthraquinone violet powder	Does not color after ten shakings	unusable

This investigation should show that it is necessary to test the dyestuffs very carefully and rigorously for their suitability for dyeing rubber latex. It also indicates that there are but few dyestuffs which can be properly used for this purpose. The correct concentration of Oxamine pure blue 6B highly concentrated in the rubber latex amounts to approximately 0.06 per cent, of pyramin yellow G extra approximately 0.04 per cent and of stilbene yellow 3GX approximately 0.03 per cent.

Various other dyestuffs were also investigated and it has been found that the following are well suited for the dyeing of rubber latex, viz., Cotton orange R, sorbin red X, rhodamin B extra, anthosin 5B, and vulcan red BN powder. It is also possible to dye the rubber latex with the aid of the following colors: For obtaining yellows, pyramin yellow G extra and stilbene yellow 3GX; for obtaining reds, sorbin red X and rhodamin B extra; for obtaining pinks, anthosin 5B; for obtaining oranges, cotton orange R; for obtaining violets, vulcan red BN powder (the red dyestuff is changed in color by the rubber latex which has been preserved with ammonia); for obtaining blues, oxamin pure blue 6B highly concentrated.

The Distinction Between Rubber Absorption and Consumption

IN ADDRESSING a meeting of the Institution of the Rubber Industry in London last month on the subject of "Rubber Statistics," H. Eric Miller, whose activities in connection with crude rubber are well known, explained a distinction which he feels should be made between rubber absorption and consumption. In the United States the term "absorption" is not commonly used in connection with crude rubber, but Mr. Miller has used it frequently in the past without his meaning being always clear. He has now explained that by absorption he refers to the crude rubber used by manufacturers in the production of rubber goods, while by consumption he refers to the rubber content of goods actually worn out. Thus, the rubber manufacturing industry merely absorbs crude rubber; the public afterward consumes it.

In following this line of reasoning Mr. Miller said:

"When we turn from absorption to consumption we get largely outside the region of statistical data. We have no means of knowing explicitly what the actual consumption is each year, but we can lay down two important propositions about it. The first is that it is constantly increasing and the second is that it is subject to much less violent annual fluctuations than absorption. Of the various series which we may use in considering real consumption the most important are the annual output of automobiles in the United States, and the annual registration of automobiles in the world.

"A year or two ago I drew a picture for myself to show statistically the trend of consumption by averaging the absorption of every three years and treating that average as indicating the consumption for the middle year. The figures so arrived at are presented to you in the following table. Personally, I look upon this table as far more helpful in keeping a correct perspective of our Industry than can be derived from a comparison of the individual years separately:"

TABLE I

Trend of Rubber Consumption as measured by a three years moving average of annual estimated Absorption.

Year	Three years moving average of Annual absorption Tons	Percentage Increase over previous year Per cent.
1910	85,000	5.9
1911	90,000	5.9
1912	95,000	5.6
1913	107,000	12.6
1914	125,000	10.8
1915	150,000	20.0
1916	187,000	24.7
1917	221,000	18.2
1918	260,000	17.6
1919	287,000	10.4
1920	302,000	5.2
1921	322,000	6.6
1922	362,000	12.4
1923	430,000	18.8
1924	487,000	13.3
1925	525,000	7.8

Automobile Industry Ranks First

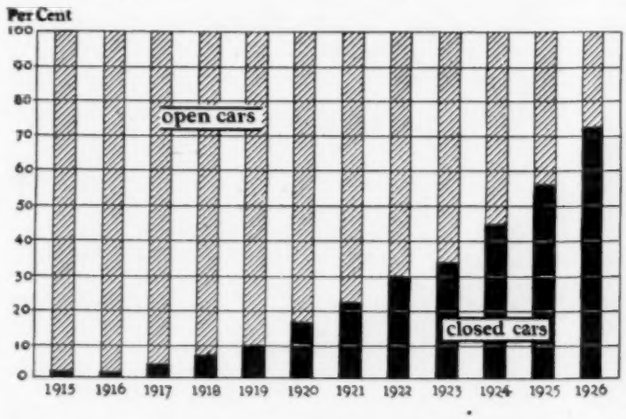
Interesting and Unexpected Information Revealed in 1927 Edition of Facts and Figures of the Automobile Industry

THE EIGHTH annual edition of "Facts and Figures of the Automobile Industry" published by the National Automobile Chamber of Commerce, affords an interesting panorama of what has taken place in the automotive industry as a whole during the year 1926. While this booklet might appear to be a collection of dry tables and statistics, it offers in many instances bits of information which are curious and surprising or even startling. We learn, for example, that Florida has made the largest gain of all the states of the Union in motor registration in 1926, namely a gain of 40%, and that Indiana has the greatest mileage of surfaced roads.

That the United States leads the world in the number of automobiles used, goes without saying, but it is interesting to know that in the past 31 years automobile production and registration rose from 4 passenger cars manufactured in 1895 to a total of 3,936,933 (including Canada) produced in 1926, with registrations totaling 19,237,171. It wasn't until 1904 that the production of automobile trucks was worth recording separately. In that year, however, 411 trucks were manufactured, and yearly production has steadily increased until in 1926 the industry manufactured 491,353 trucks (including Canada).

With this enormous growth confined to only one industry, it isn't surprising to discover that in 1925 the automobile manufacturers ranked first in the wholesale value of their products, which stood at $3,371,855,805, with the slaughtering and meat packing companies coming second, and the steel and rolling mills holding third position. Naturally, in such a huge industry, the number of people employed directly and indirectly runs into millions. According to the "Facts and Figures" for 1926 this number is almost four million, or 3,743,781 persons. Obviously the automobile manufacturers must require a great deal of raw material which is not produced by them, such as steel, plate glass, tin, leather, rubber, etc. Therefore it is interesting to note that the industry uses 84.7% of all the rubber imported into the United States, which is the largest percentage of any raw material employed in the automotive industry. In automobile manufacturing 63% of all the leather produced in the United States is used and 50% of all the plate glass.

The fashion for closed cars, instead of open cars, appears to be more than merely a fashion, as may be seen by the accompanying table. The first passenger automobiles made



were open, or touring cars. In 1921, however, the closed car began to receive the public's favor and by 1925 the per cent of closed cars in the year's production stood at 56% and in 1926 at 72%. Whether this gain in the production of closed cars is to continue remains to be seen; some manufacturers are stressing the open models again.

It was said above that Indiana had the greatest mileage of surfaced roads of any of the states. This is 48,125 miles compared to Ohio, which holds second place with 40,249 miles and New York third, with 26,363 miles of surfaced roads. The total mileage of the Federal Highway System is 56,717 miles and, with the co-operation of the various states, it is hoped in the future to extend this mileage of surfaced roads to 200,353 miles. These Federal highways are, of course, used largely by tourists and it is interesting, in this connection, to discover that the state of New Hampshire has a greater percentage of interstate traffic on her state highways than any other state, namely 51%. Ohio, on the other hand, received only 10% of visiting cars although the state itself has a 90% average of car registration.

It may come as a surprise to some persons to learn that 2,700,000 families in the United States own *two* automobiles, or 10% of all families in the country. The yearly decline in the cost of automobile operation may be partly responsible for this situation. The "Facts and Figures" booklet illustrates how the cost of operation has declined in the past five years. In the case of tires for replacement, in 1919 the average cost was $82; in 1926, $37; in the case of fuels and lubricants: 1919—$98; 1925—$105; replacement parts and supplies: 1919—$45; 1926—$35. The National Automobile Chamber of Commerce submits figures compiled by Iowa State College in this booklet showing that ten cents per mile pays all costs of operation of the average car. This ten cents includes .98 cents for tires.

22,000,000 *Cars In U. S.*

Eighty per cent of the total number of motor vehicles in the world are in the United States. The world total is 27,646,508; the U. S. total 22,000,000. The countries having the next largest number of motor vehicles after the United States, are (in the order of greatest number): England, Canada, France, Australia and Germany. The United States, has, of course, also the greatest highway mileage.

Automobile fatalities in 1926 show an increase, as has been the case ever since statistics on this subject have been taken. Due to increasing "Safety First" publicity, however, twenty-eight cities over 100,000 population are reported to have reduced motor fatalities during 1926. Of this number, Kansas City takes the lead with 74% reduction of fatalities and New Bedford second, with 47% reduction. Automobile grade crossing fatalities shows no decrease for 1926, the total being 2,492 compared with 2,206 in 1925.

According to statistics and tables in "Facts and Figures of the Automobile Industry" one can understand the battle that is being waged between the railroads and the motor buses. It is revealed here that in 1926, 80,040 buses were in operation throughout the country, and of this number about 1,253 were operated in connection with railway service and 19,099 in competition with railway service. The greatest number of bus routes are located in the central eastern portion of the United States, but the greatest route mileage occurs throughout the Middle West. Although the South has been especially backward in the development of bus routes, improved roads are gradually encouraging this service, and in the state of North Carolina especially, an increasing number of bus routes have latterly been established.

As a statistical summary of some of the lesser known facts of the industry, it will be of interest to conclude with the information that in 1926 there were 1,007,295 licensed chauffeurs driving automobiles over the country; that 900 bills directly or indirectly concerned with the industry were considered by the legislatures of the forty-eight states, and that of this number 180 bills were enacted into laws.

Ways of Determining The Nerve and Plasticity of Rubber

Correct Information With Regard to These Important Properties May Eliminate Difficulties In Processing

TWO OF THE most important properties of raw rubber are nerve and plasticity. These two words have been very much misused. They have been considered as synonymous which is by no means the case. Every rubber man talks of the nerve of rubber but not all rubber men know exactly what the term means, and the same is true of plasticity. The nerve of rubber is simply the adhesion that exists between the individual particles of rubber. Each particle of rubber is thus considered as an entity, as a molecule, without reference to its internal make-up. The greater the tendency of these particles to adhere together, the greater the nerve of the rubber.

Plasticity of rubber, however, refers to the capacity of these particles for moving towards one another without being torn away from the sphere of mutual attraction. Both nerve and plasticity are important properties of rubber particularly in that they affect the final results when the rubber is vulcanized.

For example, it is possible to take a mass of rubber and mix it thoroughly on large mixing rolls until it is ready for the admixture of fillers. If this is properly done, a soft, plastic mass is obtained and the adhesion of the various particles of this mass is sufficient for all purposes. But when the mixing is carried out on a smaller mixer which is not of sufficient size to give the correct result, the mixture that is obtained is hard and short. Vulcanization by the hot process of rubber mixed in this condition will yield a product much lower in quality than that obtained from the mixings on the larger rolls.

Bearing on Vulcanization Results

It is evident that there is some difference here in the properties of the raw rubber as developed in the mixing operation which has a very important bearing on the results obtained in vulcanization. The question arises as to how to tell the degree of nerve and of plasticity that a certain raw rubber possesses, for it is easy to see that if this information were available much difficulty would be avoided in the technical processing of the raw material.

Dr. W. Greinert and Dr. L. Behre described certain methods of doing this in an interesting article which they published in "Kautschuk" last year. They claim that a method for the determination of the nerve of rubber can be properly based on certain capillary phenomena. It is a common matter to determine the surface tension of a liquid by establishing the capillary rise. This also pertains to solutions. As the surface activity of rubber rises, the surface tension is lowered and therewith the capillary rise as well as the speed with which this rise ensues. The more a rubber is maintained in its structural condition, the greater nerve it possesses and hence the greater its surface activity and therewith the smaller the rate at which the solution is subjected to capillary rise. These authors give the results of a large number of experiments that were carried out on this point and it is sufficient to say that the capillary rise of the various rubber solutions, such as smoked sheets, crepes, paras, etc., vary considerably showing that the nerve of the different rubbers varies to a large degree. It is thus evident that the rubber technologists must take this fact into consideration in manufacturing rubber merchandise if good results and the same results are always to be obtained in the vulcanization process.

Considerably more attention has been paid to the plasticity of the crude rubber and to the relationship that exists between this property and the quality of the finished rubberware. It is perhaps true that plasticity is one of the most, if not the most, important property of raw rubber. And this refers not only to the raw rubber itself but also to the mixture that is made from the raw rubber.

The operating man knows well the difficulties that arise when the rubber is either too hard or too soft. It is only necessary to mention the troubles that arise in the calender rolls and elsewhere. It is not therefore surprising to find that attempts have been made to determine this property of the raw rubber in an accurate manner and to define it in mathematical terms, so that a true picture of its importance can be ascertained.

The Williams Method of Measuring Plasticity

One of the best known methods for measuring the plasticity of rubber is the one that was developed by Williams. Williams takes a piece of rubber about two cubic centimeters in volume and places it between two metallic plates, the top plate being weighted with a certain weight. The top plate is made in such a manner that it can be moved up and down. The entire apparatus is placed in a thermostatically controlled heating chamber and is maintained there at a temperature of 100 degrees C. The gradual sinking of the upper plate, which means of course the gradual decrease in the thickness of the rubber sample, is determined by means of a micrometer. Rubber is always chosen which is worked up in accordance with the following directions in a twelve inch mixing roll: About 18 ounces of the rubber are worked up between the rolls, which are about 0.08 of an inch separated, for a period of four minutes at a temperature of 60 degrees C. The temperature is controlled by means of thermo elements. The sample is then allowed to cool off and is then placed in the testing apparatus. The decrease in the thickness of the rubber can be graphically represented in the form of a curve, which is a straight line. The equation of this curve may be written as such: $K=x^n.y$. In this equation y is the thickness of the rubber in millimeters, x is the time in minutes, n is a constant and K is the plasticity coefficient.

There have been several changes made in this method by various investigators and one of these which is of particularly great interest is that made by De Vries. The reader will find a complete description of De Vries' work in this subject in No. 44 of "Mededeelingen van het Centraal Rubberstation." This investigator selected an un-mixed rubber in order to exclude the mixing factor, which is a very difficult characteristic to maintain constant. Inasmuch as the penetration speed was too small at a volume of two cubic centimeters, 0.4 gram was taken which is equal to 0.425 cubic centimeters. The calculation of the plasticity of the rubber was carried out in quite a different manner from what has been described above in the Williams method. The thickness of the rubber was thus determined after a period of thirty minutes, and the slope of the curve, that is the straight line, was determined from the difference in the thickness of the rubber after twenty-five and thirty-five minutes. It was also shown that the logarithmic curve is really not a straight line and that Williams' formula does not accurately express the speed of penetration.

[Concluded on Page 190]

RECLAIMED RUBBER

[*A Series of Articles on Its History Development - Manufacture - Uses*]

BY
C. E. Bishop
Consulting Engineer
on Reclaimed Rubber

PART IV

The Problem of Removing Combined Sulphur

The Solution of This Problem Will Provide The Answer to Other Questions Facing the Reclaimer

IN THIS article we will discuss further the second factor[1] of importance to the advancement of the reclaimed rubber industry, i.e., improving the quality of reclaimed rubber so that the rubber contained therein is more nearly the equal of new rubber. Let us re-state this in a slightly different way, as follows: The problem is to develop process methods which will improve the quality of reclaimed rubber until the resulting product is equivalent to the original compounded mass but entirely free of sulphur. This, no doubt, is the objective of every progressive reclaimer today and much effort is being expended with such an end in view. Much remains to be done, many experiments are yet to be made, many will be the failures to discourage us, but like all worthwhile things that have been accomplished, the end justifies the means.

It is obvious that if a quantity of treads from any standard make of good-quality tires is reclaimed in such a manner that the physical qualities are on a par with the original tests of the compounded mass, then we have a material of much greater value than is reflected in the present selling price of reclaimed rubber for then it may be used and reused 100 per cent. A relatively greater value may be obtained, of course, from other kinds of scrap, such as pure gum inner tubes, compounded tubes, and other articles having a high rubber content. These may be segregated and reclaimed separately, and to the resulting reclaim (made free of sulphur) we need only to add the required vulcanizing agent to obtain a product equal in quality to a new compound composed of the same original ingredients.

Now, let us consider some of the technical factors to be dealt with, anticipating the research yet to be done.

We have learned that sulphur exists in vulcanized rubber in three forms: (1) Free, (2) Colloidal, and (3) Combined. We know too, according to the latest accepted theory of what actually occurs when rubber is vulcanized, that by adding the vulcanizing agent to the mass and applying heat or subjecting the mass to the action of certain acids or gases, the phenomena of vulcanization takes place. This vulcanization we understand to be combined chemical and physical reaction which makes a molecular change in the mass and lends to it the characteristics of elasticity, resiliency, resistance to cold and to abrasion, etc.

Experiments have afforded conclusive evidence that all free sulphur can be readily removed by properly disintegrating the material and subjecting it to heat while immersed in a solution of one of the well-known sulphur solvents and if the process is properly exercised and controlled, the sulphur existing in the colloidal state can also be removed.

Our problem is now to convert the molecules of sulphur (which combined with the rubber in vulcanizing) back into a mineral form when they can then be removed most readily. However, this is only a part of the problem. We must also chemically and mechanically treat the mass so that the rubber and other ingredients contained therein are put into as smooth and fine a state as existed originally, and to do this without overheating it.

In the attempt to obtain this refinement, the rubber is often overworked, even to the point of melting or depolymerization, so weakening its structure that the physical qualities are impaired. Also, in trying to guard against this danger some of it may be under-refined so that lumps remain, making it unfit for use in certain commodities. There exists today such a fine line of distinction between properly and improperly refined reclaim that it is difficult indeed to exercise the control necessary in its production.

We now propose a concerted effort on the part of the skilled technical men of the reclaiming industry so that by concentration and cooperation ways and means may be found (1) to separate the sulphur molecules (with complete devulcanization) from the material before refining, and (2) to protect the mass against overheating during its progress through the various operations, particularly in the refining. By way of assisting in the accomplishment of this objective, the author has conducted experiments that prove conclusively that there is at least one way in which it can be done, it having been accomplished in the laboratory. Much must be done, however, before proposing the process for large scale production.

It is indeed a regrettable condition that today we must resort to the use of oils and other softening agents to assist in the effort to make the reclaim a duplicate of the original in plasticity and refinement. This is especially true when certain oils are used that are known unfavorably to affect the aging qualities of the product. In fact it is doubtful whether any other factor has contributed so much to the defeat of the more general use of reclaim unless it is the lack of uniformity which was discussed in a previous article. The use of oils and other softeners is to be discouraged; the original compound contained all the softener needed and the material can be so processed that such agents are unnecessary.

When we are able to reclaim scrap rubber so that the resulting product is free of sulphur and textile material, and without subjecting it to a temperature above that of vulcanization, then the oft-repeated question "How many times can rubber be reclaimed?" will be answered.

That question is probably more often repeated than any other question heard in the reclaiming industry. It varies only in its wording, such as:

(1). How often can rubber be reclaimed before it is worthless?

(2). When goods already containing reclaimed rubber are returned for reclaiming, how are they handled?

(3). Can rubber be reclaimed over and over again with

[1]The factor of uniformity of reclaimed rubber, to be obtained through proper classification, segregation and blending of scrap rubber, has been discussed in previous articles. This series began in the April 10 issue of THE RUBBER AGE, and is copyrighted by C. E. Bishop.

good results so that it can be used again in some quantity?

(4). How do you know when rubber can no longer be reclaimed?

Other and similar questions follow without end. The answer to those questions today is that in reclaiming scrap rubber products which already contain a certain quantity of reclaimed rubber, they are tested and so segregated and classified that reclaims of *high, medium,* and *low* quality are produced separately and designated for use in certain specific commodities.

This condition will always prevail with the progressive reclaimer for all kinds of scrap tires as well as other scrap rubber products of varying physical qualities are now being returned for reclaiming and always will be. It is the function of the reclaimer to so separate and classify and then economically and thoroughly reclaim it that it may be used and re-used without in any degree detracting from the value of the commodity in which it is used.

Editor's Note:—In the next article, the fifth of this series, Mr. Bishop will review various reclaiming processes, some patented and some unpatented.

Determining Nerve and Plasticity of Rubber

(*Continued From Page* 188)

There is still another method of determining the plasticity of rubber, which is known as the Marzetti method (see Giornale di Chimica Indistriale ed Applicata, June 1923.) This method consists in squeezing the rubber through a small opening of three millimeters diameter. The rubber is placed in a steel cylinder and then compressed air of high pressure is introduced, the pressure being for example in kilograms per square centimeter, and the rubber is squeezed out of the cylinder. It is evident that the temperature is a very important factor in carrying out this test and hence the entire apparatus is placed in a chamber which is thermostatically controlled. Inasmuch as the quantity of rubber that is squeezed through the opening is proportional to the square of the pressure, the square root of the quantity of rubber, expressed in milligrams, squeezed through the opening within a period of fifteen minutes is taken as the plasticity coefficient.

Constant Temperature Necessary

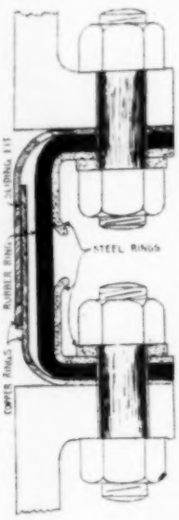
One preliminary condition of making the plasticity test in this apparatus is the preliminary kneading of the rubber before it is introduced into the apparatus. Thus a sample of two hundred grams of rubber is taken, according to Marzetti, and worked up between mixing rolls for a period of time with a consumption of 200 watt hours. During this time the temperature of the rolls is maintained constant. This is a part of the process in which errors can well be introduced, for the variation in the temperature of kneading or in the energy that is spent in the process, which would of course give a product of different characteristics than if these conditions were maintained constant, will give a product which will possess a different degree of plasticity, according to the Marzetti method, than otherwise. Hence it follows that these conditions must be maintained constant under all circumstances, if comparable results are to be obtained on different rubbers. In fact it may be held that the great danger of variation in these constants is a very serious disadvantage of the process.

Modifications of Marzetti Method

This subject of plasticity determinations of rubber has been discussed in detail in the article published in the September, 1926, issue of "Kautschuk," to which we are indebted for certain information contained in this article. The authors indicate in the original article that they have employed the Marzetti method but with certain modifications. The mixing of the rubber was done on a small laboratory mixer, 44 centimeters long, friction 1: 1.22, speed of the roll 5.75 meters per minute. One kilogram of the rubber was worked up between these rolls with an energy consumption of 1.2 kilowatt hours, the rolls being at such a temperature that can just be stood by the bare hand. After mixing or kneading for one hour the rubber was placed in the Marzetti testing apparatus and tested under a pressure of twenty kilograms per square centimeter and a temperature of 80 degrees C. At intervals of fifteen minutes each and for four consecutive times the squeezed-out rubber was cut off and weighed, but the first sample was not used in the comparison. The plasticity according to the Marzetti method is as has been indicated the square root of the quantity extruded within fifteen minutes, this quantity being expressed in milligrams.

A Novel and Successful Rubber Expansion Joint

By W. F. Schaphorst, M.E.



The sketch herewith shows how a large eastern engineering concern solved some of its expansion joint troubles by making such joints leak-tight with rubber. The sketch shows all details and a lengthy description is unnecessary. The joint is stiff laterally because of the two telescoping copper rings which are clearly shown. It is claimed that the joint will withstand high pressure.

A joint of this kind is excellent for handling water and other fluids that will not attack rubber chemically. It must not be used for high temperature steam or water, of course, because of the delicacy of rubber at high temperature.

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The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

This Week the Gentleman Talks About Disillusionment.

LONDON, May 11, 1927

DISILLUSIONED! That is the term which at this moment most aptly describes the feelings of the majority of those connected with the crude rubber market in Mincing Lane. Six months ago very few people expected that the restriction scheme would be allowed to function to its uttermost point of cutailment of exports; and it was generally believed that, in the unlikely event of the latter development actually materializing, nothing could prevent a sharp upward bound in the price of the raw material. Nobody, of course, believed that the mere announcement of a cut in the release to the minimum rate of 60% would straightaway alter the statistical position, but an outburst of speculative activity was anticipated with some degree of confidence. All the world knows that nothing of the sort has happened.

The Colonial Office announcement has come and gone, the date of its appearance actually being marked by a slight weakening of values. In my view, the explanation of this paradox is simply that the rubber speculator of today is a far less hardy (or perhaps the correct expression should be foolhardy) individual than his counterpart of eighteen months ago. I suppose that the experience of the margin-hunter in your rubber exchanges has tallied, more or less, with that of Mincing Lane, and you will agree that conditions since December, 1925, have hardly been conducive to successful operations, always remembering that the speculators on the short side are easily outnumbered by the bull operators.

THE FACT that direct shipments from the Malay States to the United Kingdom declined abruptly last month to 4636 tons, against 9566 tons in March, is hailed as an indication of an early break in the clouds, and as the herald of the dawn of a new era of declining stocks, more especially as the further cut to 60% was not effective until May 1st.

Symington & Sinclair, the crude rubber brokers, in a special circular to their clients, estimate a monthly decline in the world stocks of 5,000 tons, under the new regime, but as their assumption is based on consumption at an annual rate of 630,000 tons, these figures can be discounted a good deal. Eric Miller, though a trifle more subdued, also spoke in quite an optimistic vein—from the grower's standpoint, of course—at a recent annual meeting of one of the numerous plantation companies of which he is Chairman, when he stated that present indications of world absorption of rubber during 1927 suggest that a figure of 600,000 tons may conservatively be anticipated, and that requirements at this rate can only be met by both drawing on existing stocks and by increasing the rate of export in the manner provided by the restriction scheme regulations.

Mr. Miller deprecated any suggestion that there is dissatisfaction among either responsible producers or manufacturers with the policy of regulating exports to bring about greater stability in the price of the commodity. This statement, however, was qualified by the concession that, human nature being what it is, there may be room for further improvement in the scheme in the shape of the speeding up, and, conversely, the contraction, of releases. From the views of these two authorities, which more or less harmonize with those of the leading authorities here, you will gather that a feeling of moderate optimism prevails in regard to the outlook.

HOWEVER, THE failure of the commodity market so far to respond to the diminishing ratio of exports, and the consequent prospect of smaller dividends, is not proving very delectable in certain quarters. There is a disposition among this section to regard the present price level as an unnecessarily low one, and the restriction scheme authorities are blamed for "taking away with one hand what they have given with the other", meaning that the alteration last November in the pivotal price and the basis of releases has been nullified by the granting of validity to accumulated export credits and the substantial increase in the standard production assessments of Malaya and Ceylon.

Both in letters to the financial press and public statements at company meetings, irresponsible shareholders are exhorting the authorities to tighten up the scheme so as to pander to the price requirements of these mercenary individuals. Some really laughable proposals have been put forward so as to gain this end, although no scheme has yet been forthcoming which deserves to rank with the classical suggestion propounded by Sir Ernest Birch during the throes of the rubber slump which was to the effect that the whole London stock should be dumped in mid-Atlantic.

In this connection, I am rather surprised to observe that such a leading rubber man as A. A. Baumann (who is on the Board of at least half-a-dozen large plantations) not only suggests that the unused coupons should be cancelled and that the standard productions have been assessed on too generous a scale, but goes to the length of recommending an extension of the scheme to restriction of new plantings. In his own words, he thinks that "those who have the interest of the industry at heart would do well not to plant any more rubber for some years to come until we have got a better proportion between supply and demand, and if supply and demand are really to be brought into rational relationship one with the other, it may be necessary to prohibit the planting of new areas as well as to restrict the output from existing plantations".

Yours Faithfully,

THE GENTLEMAN FROM MINCING LANE

Large Movement of Chemicals Reported

Factories Continue to Use Large Volume of Rubber Compounding Materials—Shortage of Carbon Black Due to Flood Is Unlikely

NEW YORK, May 20, 1927—Rubber plants are unexpectedly keeping up their record-breaking production pace and are continuing to use a large volume of rubber accelerators and compounding materials. Dealers report excellent conditions with no let-up in sight for some months. This activity is rather unusual for late May and everything points to new 1927 high production records.

Some anxiety has been felt as to the immediate availability of adequate supplies of carbon black but an investigation conducted by THE RUBBER AGE discloses that there is little real basis for this feeling. Though several carbon black plants in Louisiana were inundated with a loss of about 2,000,000 pounds, the severest blow has been to transportation, rather than to the production of blacks. This condition happily is being remedied and no concern need be felt on the score of ample supplies. Prices are practically unchanged.

ACCELERATORS

Organic

A-7	lb.	.70 @	—
A-40	lb.	.70 @	—
A-19	lb.	.75 @	—
A-11	lb.	.75 @	—
A-16	lb.	.65 @	.85
Aldehyde ammonia, crystals	lb.	.80 @	.82
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	— @	—
Captax	lb.	— @	—
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	.85 @	.90
Diphenylguanidine	lb.	.68 @	.72
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde Aniline	lb.	.38 @	.42
Grasselerator 102	lb.	.80 @	.82½
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.15 @	1.35
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Lithex	lb.	.18 @	.20
Monex	lb.	3.25 @	—
Paraphenylenediamine	lb	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
Quinoidine	lb.	.40 @	—
R & H 50	lb.	.60 @	.65
Super-Sulphur No. 1	lb.	— @	—
Super-Sulphur No. 2	lb.	— @	—
Tensilac, No. 41	lb.	.65 @	.68
Thiocarbanilide, kegs	lb.	.26 @	.28½
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.69 @	.73
Tuads	lb.	— @	—
Vulcone	lb.	.70 @	.74
Z. 88	lb.	.75 @	1.00
Zimate	lb.	— @	—

Inorganic

Lead, sublimed blue	lb.	.09 @	.09½
Lead, white	lb.	.09 @	.09½
Litharge, domestic	lb.	.11 @	.13
Magnesia, calcined, light	lb.	.06 @	.12
heavy	lb.	.04 @	.04½

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.33 @	.35
Ultramarine	lb.	.08 @	.35

Browns

Siena, Italian	lb.	.04½ @	.08
Umber, Turkey	lb.	.04½ @	.06

Greens

Chrome, light	lb.	.27 @	.31
medium	lb.	.29 @	.32
dark	lb.	.31 @	.34
Chromium Oxide, bbl.	lb.	.28 @	.32

Reds

Antimony crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
golden 15/17 F.R.	lb.	.16 @	.22
Indian English	lb.	.08 @	.10
Oximony	lb.	.13¼ @	—
Para toner	lb.	.13 @	.14
Red oxide, reduced	lb.	.10 @	.11
pure	lb.	.14 @	.15
Toluidine toner	lb.	1.75 @	1.85
Venetian red	lb.	.02 @	.06
Vermillion, quicksilver, English	lb.	1.55 @	1.65

Whites

Lithopone, Akcolith	lb.	.05¾ @	.06
Lithopone, Azolith	lb.	.05½ @	.05¾
Lithopone, Vanolith	lb.	.10½ @	—
Titanox	lb.	.12 @	.12½
Calc. Base Pigment	lb.	.10½ @	.11
Zinc Oxide—American Process			
American Azo:			
ZZZ (lead free)	lb.	.06½ @	.07
ZZ (under 5% leaded	lb.	.06⅜ @	.07⅛
Zinc Oxide—French Process			
White seal	lb.	.11⅞ @	—
Green seal	lb.	.10⅞ @	—
Red seal	lb.	.09⅞ @	—

Yellows

Chrome	lb.	.17 @	.20
Ocher, French medium	lb.	.03 @	.03¼
domestic	lb.	.01¾ @	.02

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
Lycrate light	lb.	.16½ @	.17
Ammonia carbonate	lb.	.13½ @	.14
Are-O-Sol	ton	8.00 @	11.00
Asbestine	ton	14.75 @	18.00
Barium carbonate	ton	50.00 @	52.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½ @	—
Blacks			
Arrow "Aerfloted"	lb.	.08 @	.12
Bone Black	lb.	.05½ @	.11
Carbon, compressed	lb.	.07½ @	.11½
" uncompressed	lb.	.07 @	.11
Drop Black	lb.	.06 @	.1
Lamp "	lb.	.12 @	.40
Micronex	lb.	.08 @	.12
Thermatomic carbon	lb.	— @	—
Velvetex carbon	lb.	.04 @	.07
Blanc fixe dry f.o.b. works	lb.	.04 @	—
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	8.00 @	9.00
Aerfloted Suprex	ton	9.00 @	20.00
Blue Ridge, Dark	ton	— @	—
" " Light	ton	— @	—
Dixie	ton	— @	—
Langford	ton	— @	—
Mineral Flour, c. l. fob mine	ton	20.00 @	23.00
Tensulite		15.00 @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.19 @	.25
common bone	lb.	.14 @	.15
Graphite flake, bbls.	lb.	.06½ @	.10
Magnesia, carbonate	lb.	.07 @	.09
Mica, powdered	ton	90.00 @	100.00
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.15 @	1.75
Tripoli, white	lb.	.01¾ @	.02
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	—
Quaker	ton	— @	—
Superfine	ton	10.00 @	12.00
Sussex	ton	— @	—
Vansulite	ton	12.50 @	—
Wood pulp XXX	ton	45.00 @	—
" " X	ton	25.00 @	—
Zinc Carbonate	lb.	.10 @	.12

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	— @	—
Hydrocarbon, Hard	ton	— @	—
Hydrocarbon, Soft	ton	— @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	62.50 @	65.00
Pioneer, MR, solid	ton	41.00 @	43.00
" —granulated	ton	51.00 @	53.00
Robertson, MR, solid	ton	34.00 @	80.00
M.R. (gran)	ton	34.00 @	80.00

SOFTENERS

Acids

Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees	ton	10.50 @	11.50
66 degrees	ton	15.00 @	16.00
Tartaric, crystals	lb.	.31½ @	—

Acids, Fatty

Stearex	lb.	.10 @	.14
Stearic, single pressed	lb.	.10 @	.11
double pressed	lb.	.11½ @	.13
triple pressed	lb.	.13½ @	.14

Alkalies

Caustic soda, 76%	cwt.	3.76 @	3.91
Soda ash, 58% C.L.	cwt.	1.42½ @	1.45

Oils

Castor, No. 3 bbls	lb.	.13¾ @	.14
Corn, crude, bbls.	lb.	.09¾ @	.10
refined	lb.	.11 @	—
Cottonseed, crude		.08 @	—
Cycline	gal.	.26 @	.34
Dispersol A (light)	lb.	.15 @	.16
" B (dark)	lb.	.14 @	.15
Fluxrite	lb.	.05 @	.06
Glycerine, C.P. drums	lb.	.26 @	.26½
Linseed, RawC.L. bbl.	lb.	.09½ @	.10
Palm Lagos	lb.	.08½ @	—
Niger	lb.	.07½ @	—
Vansulol	lb.	.10½ @	—
Peanut, domestic, crude	lb.	.11 @	—
Petrolatum, white	lb.	.08¾ @	.09
amber	lb.	.03¾ @	.04
dark amber	lb.	.03⅜ @	.03½
Pine, steam distilled	lb.	.70 @	—
Rapeseed, refined	gal.	.82 @	.83
Rosin, first rectified	gal.	.70 @	—
second rectified	gal.	.73 @	—

Resins and Pitches

Pitch, Burgundy	lb.	.06½ @	.07½
coal tar	gal.	.05½ @	.06
pine	bbl.	9.00 @	10.00
Rosin, grade K	bbl.	11.40 @	—
Pigmentar	gal.	.33 @	.41
Tar Retort	bbl.	15.50 @	16.00
kiln burned	bbl.	16.00 @	16.50

Solvents

Acetone, pure	lb.	.14½ @	—
Alcohol denatured, No. 1 bbls.	gal.	.37½ @	.44½
Benzol, 90%	gal.	.28 @	—
pure		.29 @	—
Carbon bisulphide	lb.	.05¼ @	.06¼
Carbon tetrachloride		.06¾ @	.07½
Motor gasoline, steel bbls.	gal.	.20 @	—
Naptha, V. M. & P.	gal.	.14 @	—
Turpentine, spirits	gal.	.78 @	.79
wood	gal.	.72 @	.73

Waxes

Beeswax	lb.	.58 @	.60
Carnauba, No. 1	lb.	.57 @	.59
Ceresin, white	lb.	.13 @	.14
Montan, crude	lb.	.07 @	.07½
Ozokerite, black	lb.	.30 @	—
green	lb.	.30 @	.32

ANTI-OXIDANTS

Age-Rite	lb.	— @	—
Antox	lb.	.81 @	.83
VGB	lb.	.53 @	.66

SUBSTITUTES

Black	lb.	.08 @	.14
White	lb.	.10 @	.16
Brown	lb.	.10 @	.15

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.34 @	—
" " Drums	lb.	.24 @	—
Sulphur Chloride (drums)	lb.	.03½ @	.06
Sulphur flour			
Superfine, bags	cwt.	2.20 @	2.80
" bbls.	cwt.	2.55 @	3.10
100% pure, refined, bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.95 @	3.50

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Rubber Unmoved By April Statistics

Reports on Use of Reclaimed Rubber and Consumption of Crude Rubber Leave Markets Generally Unaffected

NEW YORK, May 19, 1927—Rubber prices have remained generally unmoved during the past two weeks. The previous sluggishness in the market which prevailed up to the first of May became less on the 5th. London turned from steady to firm in the late trading and sold its deliveries beyond May at a slight advance. The New York outside market firmed up considerably and quoted the near months 3/8c a pound higher to a spot asking basis of 41 1/8c, after ruling at 40 3/4c for a week, chiefly on the higher cables and partly on unconfirmed reports from Akron that tire prices would be advanced in a few days. It developed, however, that these reports were false.

On May 6 delivery on the Exchange for May ruled very steady at 40.7 while October showed the widest loss, closing at 42.20c bid after having been done earlier at 42.50c. On May 7, December sold 10 points higher, at 42.90c.

Buyers' interest in crude rubber improved on the 11th, at least in sufficient volume to enable the outside market to regain a 1/4c loss earlier in the day and stop an early declining tendency on the Exchange. A fair sized tonnage of standard ribbed smoked sheets for May sold outside at 40 3/4c, the prevailing asking price. Business also expanded on the Exchange, the tonnage turned over amounting to 275 long tons, against 162 1/2 on May 10 and 130 tons on May 9.

July Sells at 41.20

On May 12, activity in crude rubber tapered off almost to the vanishing point. The dull state it has fallen into was graphically illustrated by the Exchange sales of only one month, July, of which nineteen lots changed hands at 41.20c, down 10 points net. The outside market sold a small quantity of spot standard sheet at 40 3/4c. Forecasts for a decline in the London rubber stock in the weekly report for May 16, cast a shadow of firmness on the rubber situation in all centers on the 13th.

The final report of the Department of Commerce on the use of reclaimed rubber showing a ratio of 45% on the consumption of crude for 1926, had no effect on the markets. Only one delivery, September, was transacted on the Exchange, 25 tons at the unchanged price of 41.90c, the closing bid. There were, however, plenty of bids for other positions at the final call.

The statistical report of the Rubber Association relative to April consumption of crude rubber had also little effect on the price structure of the market. A total of 35,871 tons were consumed in the United States, an increase of 3,175 tons, or 9.7% over the corresponding month last year.

MAY 18 OPEN MARKET PRICES

Plantations—		
Ribbed Smoked Sheets		
Spot	.40 7/8 @	.41 1/2
May	.40 7/8 @	.41 1/2
June	.41 @	.41 5/8
July/September	.41 7/8 @	.42 1/8
October/December	.42 3/4 @	.43
First Latex, crepe spot	.41 1/4 @	.41 1/2
Amber Crepe, No. 2, spot	— @	.38 1/2
" " No. 3	.37 3/4 @	.38
" " No. 4	— @	.37 1/2
Brown Crepe, Rolled	.35 1/2 @	.35 3/4
" " Clean, thin.	.37 5/8 @	.38
" " Specky	— @	.37 1/4
Liquid Latex, per gal.	1.50 @	1.75
Pontianac—		
Bangermassin	Nominal	
Palembang	Nominal	
Prime Pressed	Nominal	
Sarawak	Nominal	
Paras—		
Up-river Fine	.37 1/2 @	.38
" Medium	.29 @	—
" Coarse	— @	.26
Acre Bolivian, fine	.42 @	—
Tapajos, fine	.39 @	—
Cut Beni Bolivian, fine	.45 @	—
Caucho Ball—		
Upper, shipment	— @	.27
Centrals—		
Corinto, scrap	.27 @	—
Esmeraldo, sausage	.25 @	.35 1/2
Guayule, washed and dry	— @	.31
Africans—		
Benguela, No. 2	Nominal	
Congo, upper, black	Nominal	
" " red	Nominal	
Balata—		
Block, Columbia	.39 1/2 @	.40 1/2
" Cuidad	.38 @	.38 1/2
Surinam, sheet	.73 @	.75
Gutta Percha—		
Siak	.24 @	—
Red Macassar	3.00 @	—

LONDON MARKET

Standard Ribbed Smoked Sheets—*Buyers*		
Spot	19 3/4 @	19 7/8 d
June	19 7/8 @	20
July/Sept.	20 1/4 @	20 3/4
Oct./Dec.	20 3/4 @	21
May	19 3/4 @	19 7/8

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*		
Spot	19 7/8 @	— d
May/June	19 7/8 @	20
July/Sept.	20 5/8 @	—

RECLAIMED RUBBER

NEW YORK, May 20, 1927—Reclaimers report excellent business from all branches of the rubber industry. Tire manufacturers are working at high speed to keep up with dealer demand with the result that an unusual tonnage of reclaim is being used. Department of Commerce reports show that the tonnage of reclaimed used in 1926 was 45% that of crude. Quotations are unchanged.

High Tensile			
Super-Reclaim No. 1 Black	lb.	.17 1/2 @	.18
Super-Reclaim No. 2 Black	lb.	.14 1/2 @	.15
High Tensile Red		.15 @	.15 1/2
Shoe			
Unwashed	lb.	.08 1/4 @	.08 5/8
Washed	lb.	.11 @	.11 1/2
Tube			
No. 1 (Floating)	lb.	.18 1/2 @	.19
No. 2 (Compounded)	lb.	.14 @	.14 1/2
Tires			
Black, washed		.10 1/2 @	.10 3/4
Black, unwashed		.08 1/2 @	.08 3/4
Black selected tires	lb.	.09 1/2 @	.10
Dark Gray	lb.	.12 3/4 @	.13 1/4
Light Gray	lb.	.13 1/2 @	.14
White	lb.	.15 1/2 @	.16
Truck, Heavy Gravity	lb.	.08 1/2 @	.09
" Light Gravity	lb.	.09 @	.09 1/2
Miscellaneous			
Mechanical Blends	lb.	.08 @	.08 1/2
Red	lb.	.15 @	.15 1/2

SCRAP RUBBER

NEW YORK, May 20—Scrap dealers report very active inquiry from reclaimers as a result of the continued large production of reclaim. Prices are easy and stocks ample. Prices follow:

[*Prices to Consumer*]			
Auto tire peelings	ton	34.00	@35.00
Standard White auto	ton	50.00	@52.00
Mixed auto	ton	26.00	@27.00
Bicycle tires	ton	24.00	@25.00
Clean solid truck tires	ton	31.00	@33.00
Boots and shoes	lb.	.01 7/8 @	.02
Arctics, trimmed	lb.	.01 @	.01 1/8
Arctics, untrimmed	lb.	.00 7/8 @	.01
Inner tubes, No. 1	lb.	.08 3/4 @	.09
Inner tubes, No. 2, compounded		.06 3/4 @	.07
Inner Tubes Red	lb.	.06 1/4 @	.06 1/2
Air Brake Hose	ton	36.00	@37.00
Rubber hose	ton	18.00	@20.00

Closing Prices on Rubber Exchange of New York, Inc.

MAY 3 TO MAY 18

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	SALES*
May 3	40.20	40.70	41.10	41.40	41.70	42.00	42.40	42.70	43.00	43.20	43.40	43.60	98
4	40.50	41.00	41.40	41.70	42.00	42.30	42.70	43.00	43.30	43.50	43.70	43.90	81
5	40.70	41.20	41.60	41.80	42.20	42.50	42.60	42.80	43.10	43.40	43.60	43.80	119
6	40.60	41.10	41.50	41.70	42.00	42.20	42.70	42.80	43.00	43.30	43.50	43.70	74
7	40.60	40.90	41.50	41.70	42.00	42.20	42.60	42.80	43.00	43.20	43.50	43.70	2
9	40.80	41.20	41.50	41.70	42.00	42.10	42.50	42.70	42.90	43.10	43.30	43.50	52
10	40.60	41.10	41.40	41.50	41.90	42.40	42.40	42.60	42.80	43.00	43.10	43.30	65
11	40.50	41.00	41.30	41.50	41.80	42.00	42.40	42.80	43.00	43.10	43.20	43.40	110
12	40.40	41.10	41.20	41.40	41.70	41.90	42.50	42.80	43.00	43.10	43.20	43.40	19
13	40.60	41.10	41.30	41.50	41.90	42.20	42.30	42.70	42.80	43.10	43.30	43.50	5
14	40.60	41.10	41.30	41.50	41.90	42.20	42.30	42.70	42.90	43.10	43.30	43.50	10
16	40.50	41.10	41.40	41.60	41.80	42.20	42.40	42.60	42.80	43.00	43.20	43.40	32
17	40.50	41.10	41.30	41.40	42.00	42.20	42.40	42.60	42.80	43.00	43.20	43.40	54
18	40.50	40.90	41.30	41.50	41.80	42.10	42.20	42.60	42.80	43.00	43.20	43.40	43

(*) In lots of 2 1/2 tons each; totals are for old and new contracts.
(Prices are for new contracts)

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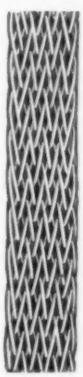

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Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

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245 FRONT ST. NEW YORK CITY

Flood Conditions Do minate Cotton Prices

Slight Upward Trend In Prices of Tire Fabrics and Cotton Duck

New York, May 19, 1927—Developments with regard to the Mississippi flood situation have been the dominating influence in the cotton market during the past two weeks, and nervousness concerning the new crop outlook has latterly grown to such an extent that, notwithstanding the heavy volume of realizing sales encountered on each successive advance, only moderate and fleeting reactions have been recorded. Speculative values have, of course, been enhanced by the floods. Whether they will be maintained or increased will largely depend on developments from now on, particularly with regard to weather conditions over the cotton belt as a whole

Fluctuation of Prices

Prices on middling upland grades have fluctuated 30 points since the first of May. Following a rapid rise on May 3 and 4, when middling uplands rose to 15.95, cotton developed irregular fluctuations on the 5th and under frequent nervous price changes over a range of one-quarter of a cent, closed at a loss of 12 to 17 points. Demand for July at rising prices started a recovery throughout the list, and a running advance carried the market up for one-quarter of a cent, October selling around 16 1/4 cents before the day's improvement culminated.

Highest quotations since last September occurred on May 6 when middling uplands reached 16 cents. Early in the second week in May selling pressure diminished in cotton trading and prices recovered a dollar a bale under frequent fluctuations, ending at a gain of 3 to 7 points. On May 12 buying was more active than for some days. Commission houses replaced cotton sold the week before and professional operators took contracts actively as the session progressed. For the first time in some days, demand for October and new crop positions served to increase the discount on July. July sold 27 points under October during final trading on May 11, but differences widened out to 33 points in the course of the day.

On May 12, 13 and 14 the price of middling uplands remained steady at 15.75c, but on the 16th the price dropped 5 points. For the first time in some weeks, prices on May 16 moved in the opposite direction to the day's news, and selling pressure proved limited. Absence of either commission house or southern liquidation disclosed few contracts for sale. A feature of the day's trading was the increased discount on July when that month sold 37 points under October, the widest spread in some time. On May 17 and 18 recoveries occurred and a liberal quantity of contracts changed hands above 16 cents for the October position, with final quotations 8 points higher on January to the loss of a point on the day in May.

Current COTTON and FABRIC *Quotations*

COTTON CLOSING PRICES

	High	Low	May 19 Close	May 3 Close
May	15.59	15.47	15.88	15.44
July	15.83	15.72	16.08	15.68
October	16.20	16.10	16.46	15.97
December	16.40	16.31	16.69	16.17

The local market for spot cotton was firm, 40 points advance, 16.20c for middling upland.

TIRE FABRICS

CORD			
Peeler, carded, 23/5/3	lb.	.41 @	.43
Peeler, carded, 23/4/3	lb.	.42½ @	.43½
Peeler, carded, 13/3/3	lb.	.36 @	.39
Peeler, carded, 15/3/3	lb.	.38 @	.39
Egyptian, carded, 23/5/3	lb.	.49 @	.54
Egyptian, combed, 23/5/3	lb.	.54 @	.60
CHAFERS			
Carded American, 8 oz.	lb.	.36 @	.41
Carded American, 10 oz.	lb.	.37 @	.40
Carded American, 12 oz.	lb.	.36½ @	.39
Carded American, 14 oz.	lb.	.36 @	.41
LENO BREAKER			
Carded American, 8¼ oz.	lb.	.37 @	.39
Carded American, 10¼ oz.	lb.	.40 @	.41
SQUARE WOVEN			
Carded American, 17¼ oz. 13-11 ply	lb.	.36½ @	.37½
Carded American, 17¼ oz. 10-5 ply	lb.	.36 @	.37

SHEETINGS

40-inch	2.50-yard yd.	.11 @	.11¼
40-inch	2.85-yard yd.	.10 @	.09¾
40-inch	3.15-yard yd.	.10⅝ @	.10¾
40-inch	3.60-yard yd.	.09⅛ @	.09¼
40-inch	3.75-yard yd.	.08 @	—
40-inch	4.25-yard yd.	.06⅞ @	.07

DUCKS

Belting and Hose	lb.	.30 @	.31
Enameling	lb.	.30 @	.35
Shoe Ducks	lb.	.29½ @	.33½
Single filling	lb.	.12 @	.15½
Double filling	lb.	.15 @	.16½

Sheetings

Prices on sheetings have remained generally normal in the past two weeks. On May 6 mills asked 1/4c and 3/8c on a number of sheeting constructions. Carload business was put through on 40 squares 6.15 yard at 5⅜c. Business was done on 40 squares 3.75 yard at 7⅞c and 8c. On May 18 small lots of 40-inch 4.25 yard brought 7c and 40-inch 3.75 yard 8c, contracts of both being quoted ⅛c less. Some mills held 40 inch 3.50 at 10¾c.

Ducks

Advances in all grades of cotton duck which occurred in the last week of April, remained in force during the first week of May. On the 5th a number of mills advanced single and double filling duck one cent a pound and enameling duck was similarly advanced. On May 10 a number of buyers who lost their market before the recent rise in cotton duck quotations tried to cover at lower levels without being able to get their poundage at the low point. Various mills show no interest in taking business except at the higher prices justified by the rising cost of cotton.

The
GENERAL
CORD
—goes a long way to make friends
BUILT IN AKRON, OHIO, BY THE GENERAL TIRE & RUBBER CO.

The Market Place

WHERE TO OBTAIN

Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical and engineering services. 1.

ACCELERATORS—X L O and Diphenyl Guanidine.

Dovan Chemical Corp.

30 Church St. New York

ASBESTINE— Specially prepared for use in Rubber. Send for liberal working sample.

SOLE PRODUCERS

International Pulp Co.

41 Park Row, New York City

CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.

J. M. Huber, Inc.

130 West 42nd St. New York

ACCELERATORS

Grasselerator 102
Grasselerator 552
Grasselerator 808

Grasselli Chemical Co.

Rubber Service Dept.

347 Madison Ave., New York

BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.

National Standard Co.

Niles, Mich.

CATALPO — The universal and standard rubber pigment now being used in treads, solids, tubes, carcass frictions, etc.

Moore & Munger

33 Rector Street
New York City

ACCELERATORS

Triphenylguanidine
Para-Nitrosodimethylaniline
Thiocarbanilide

National Aniline & Chemical Company, Inc.

40 Rector St. New York City

BOLTON BIAS CUTTER

Cuts cord or flat woven fabrics with equal ease and precision. In use all over the world.

Spadone Machine Co., Inc.

15 Park Row New York

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RUBBER COLORS—ANTI-OXIDANTS
ACCELERATORS

Di-ortho-Tolylguanidine, Diphenylguanidine. Methylene-para-toluidine; Formaldehydeaniline. Vulcanol, Thionex, Vulcone, Vulcanex

E. I. du Pont de Nemours & Co., Inc.

Wilmington, Del.

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.

Roessler & Hasslacher Chem. Co.

709 Sixth Ave. N. Y. City

CALENDERS—Embossing, for artificial leather, oil cloth etc.

Textile-Finishing Machinery Co.

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C H E M I C A L S

CARBON BLACK—CROW BRAND
LAMPBLACK
QUINOIDINE

R. W. Greeff & Co.

64 Water St., New York

ACCELERATORS

A-7 A-11 A-16 A-19 Z-88
THIOCARBANILIDE
FORMALDEHYDE—ANILINE

The RUBBER SERVICE LABORATORIES CO.

611 Peoples Savings & Trust Bldg.
Akron, Ohio

CARBON BLACK—*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."

Binney & Smith Co.

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CHEMICALS — Accelerators

Trimene Base, Heptene, Monex, Crylene, Lithex, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.

Naugatuck Chemical Co.

1790 Broadway, New York.

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.

Rare Metal Products Co.

Belleville, N. J.

Direct Factory Representation

CARBON BLACK

Godfrey L. Cabot, Inc.

Manufacturers for forty years.

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612 Metropolitan Bldg., Akron, O.

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.

R. T. Vanderbilt Co.

50 East 42nd St. New York City

The Most Economical Form of Advertising

The Market Place Section of THE RUBBER AGE contains the *only* alphabetically arranged listings of small 'ads' available in the rubber industry. Your advertisement in this section will not only be easy to find, but it will produce excellent results at very moderate costs. Let us send you details.

THE MARKET PLACE Section Continued on Next Page

ALL THE LEADERS

Are represented in this section. Purchasing agents can rely on the concerns listed as thoroughly reliable in every way.

The Market Place

2.

CHEMICALS—Complete line of rubber compounding materials, pigments and colors.
Complete problem laboratory for your use.
Send for latest quotations
Vansul, Inc.
90 West St., New York

CONSULTING ENGINEER
Specializing on Rubber Reclaiming
Organizing — Controlling — Research.
Buildings — Machinery — Formulas.
C. E. Bishop
809 United Bldg., Akron, O.

ENGINEERS
Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery
The Adamson Machine Co.
Akron, Ohio

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Standard Since 1890
Whittaker, Clark & Daniels, Inc.
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CONSULTING
Rubber Technologist
R. R. Olin Laboratories
P.O. BOX 72, AKRON, OHIO
Telephones: Barberton 828, Portage 403-R

ENGINEERS & Machinists
Cores, Chucks, Power Stands, Stock Racks, Tube MOLDS, Book Type MOLDS, Special Machinery.
DeMattia Brothers, Inc.
Clifton, New Jersey

CHEMICALS and COLORS
for all classes of mixing and cure. Complete rubber laboratory service for our customers.
Wishnick-Tumpeer, Inc.
New York Chicago Cleveland Boston

CRUDE RUBBER
We Solicit Your Inquiries
H. Muehlstein & Co., Inc.
41 East 42nd. St., N. Y. City
Offices in Akron, Chicago, Boston.

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.
J. H. Lane & Co.
250 West 57th St. New York City

CLAYS for the rubber trade.
ARGOSITE CLAY—Pulverized—Special
CONGAREE CLAY—Pulverized—Standard
United Clay Mines Corp.
General Offices — — Trenton, N. J.

CRUDE RUBBER
Importers
Members Rubber Exchange of N. Y., Inc. and Rubber Exchange Clearing House, Inc.
Charles T. Wilson Co., Inc.
82 Beaver St., New York
AKRON OFFICE: 507 Second Nat'l. B'ldg.

FACTICE—Prevents blooming, makes colors fast and a smoother batch.
Stamford Rubber Supply Co.
Stamford, Conn.

COLORS—for the rubber trade.
Gritless, dry colors especially processed for rubber compounding.
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Cincinnati, Ohio

CUMAR—Paracumarone Resin
A neutral gum for rubber compounding.
Samples and prices on request.
The Barrett Company
40 Rector St., N. Y. City

GUAYULE—"Duro" Brand washed and dried ready for compounding.
Continental Rubber Co.
1775 Broadway New York

COLORS
BRILLIANT ORGANIC DYES: PERMANENT, NON-BLEEDING, LOW COST
For All Cures
The RUBBER SERVICE LABORATORIES CO.
611 Peoples Savings & Trust Bldg.
Akron, Ohio

DIPHENYLGUANIDINE
Aero Brand, product of the highest purity from dependable source of supply.
American Cyanamid Co.
511 Fifth Ave. New York City.

HEELS, soles and strips
We can make any special brand with your molds or with ours. Best quality at the lowest price. Consult us.
P. & B. Rubber Mfg. Co., Inc.
Laurel Hills, Long Island, N. Y.

CONSULT BANNER
Before You Buy
TIRE BUILDING MACHINES
The Banner Machine Co.
Columbiana, Ohio
Paul A. Frank, Akron, Ohio, Agent.

DRY KILN—for drying crude rubber and chemicals—Hunter Process.
Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark N. J.

LABORATORY Apparatus
Bierer-Davis Aging Apparatus; Emerson Water Bath; Rubber Buffing Machine; Emerson Fuel Calorimeter; Emerson Textile Conditioning Ovens.
Emerson Apparatus Co.
Melrose, Mass.

THE MARKET PLACE Section Continued on Next Page

The Market Place

3.

LINERS — PROCESSED
For
Various Rubber Stocks
The Cleveland Liner & Mfg. Co.
5508 Maurice Ave., Cleveland, O.

MOLDS AND CORES—
Tire building equipment; general machine work.
The Akron Equipment Co.
Akron, Ohio

RECLAIMED RUBBER
We specialize in fine Grey, Black and Red Reclaimed Rubber.
Send us Your Inquiries
The Defiance Rubber Co.
Defiance, Ohio

LUBRICATORS—
Lubricators — Oil Filters — Oiling Systems — Oil Storage — Accessories
Send to Dept. 76 for catalogs.
S. F. Bowser & Co., Inc.
Fort Wayne, Indiana.

MOLDS & CORES—Tire building machines; tire finishing bands; tubing machines; hydraulic presses.
The Akron Standard Mold Co.
Akron, Ohio

RECLAIMED RUBBER—
Uniformity, reliability, cleanliness.
Pequanoc Rubber Co.
Butler, N. J.

MACHINERY—
Heater Presses, Molds and Cores, Tubing Machines.
The Williams Foundry & Mach. Co.
"In Business Since 1888"
Akron, Ohio

MOLDS & CORES
SPECIAL MACHINERY
SWING JOINTS
Specify Bridgwater Service
The Bridgwater Machine Co.
AKRON OHIO

RECLAIMED RUBBER
of Standardized Quality.
NO. 188 FOR TUBES
Philadelphia Rubber Works Co.
New York Akron Philadelphia

MANDRELS--CIRCULAR
and Economy Calender Shells
Prompt Service—Let us quote you.
The Clyde E. Lowe Co.
2976 E. 81st St., Cleveland, Ohio

MOLDS AND CORES —
Also Non-Skid Engraving Machines. Licensees for Watch-case Heaters and India Cores & Chucks.
The Franz Foundry & Machine Co.
Akron, Ohio

RECLAIMED RUBBER—
for all purposes.
Rubber Regenerating Co.
Naugatuck, Conn.

MICA — Water Ground and Water Floated — 160 Mesh —Absolutely Free from Grit. Akron Stocks, also Factory Shipments.
The C. P. Hall Co.
116 Central Savings & Trust Bldg., Akron

MOLDS & CORES—for automobile tires; general machine work.
Kuhlke Machine Co,
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RECLAIMED RUBBER
Well Known Standards
Monatiquot Brands
Stedman Products Company
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MICA—160 mesh—water ground —water floated—free from foreign matter.
Stocks carried at Trenton, N. J.— Cleveland, O.—Chicago, Ill.
The Harshaw Fuller & Goodwin Company
Hanna Building, Cleveland, Ohio

"NU-GUM" RUBBER
Produced from No. 1 Floating Tubes. Absolutely pure — no oils —no compound added. *Specific Gravity*, .98.
E. L. Bullock & Sons, Inc.
99 John St. New York City

RECLAIMED RUBBER
A standardized grade for every requirement.
U. S. Rubber Reclaiming Co., Inc.
100 E. 42nd St., New York, N. Y.
"44 Years Serving the Industry Solely as Reclaimers"

MOLDS
FOR TIRES, MECHANICAL GOODS & DRUGGIST SUNDRIES.
The Akron Rubber Mold & Machine Co.
AKRON, OHIO.

PINE TAR — Retort "Sunny South", "Pentarco", "American". Brands for Tires, Tubes, Mechanicals,—Reclaim. *The Best Softener*
E. W. Colledge, Inc.
P. O. Box 356 Jacksonville, Fla.
Agents in New York, Chicago, Cleveland.

RECLAIMED RUBBER
The Xylos Rubber Co.
Akron, Ohio
CAPACITY 250,000 POUNDS DAILY

THE MARKET PLACE Section Continued on Next Page

The Market Place

4.

RED OXIDE—A special grinding, guaranteed uniform in color and quality.

Joseph A. McNulty
114 Liberty St. New York City

SANITARY GOODS—
Dress Shields, Baby Pants, Aprons, Elastic Belts, Bloomers, Stepins, Bibs, Guimps and Brassieres.
SPECIAL GOODS CUT TO ORDER
Rand Rubber Co., Inc.
Sumner Ave. & Halsey St., Brooklyn, N. Y.

TIRES—For Every Transportation need from the Ford Runabout to the heaviest truck and Multiple passenger coach.

Fisk Rubber Co.
250 West 57th St., N. Y. City

RUBBER— Crude and scrap, all grades.

H. Muehlstein & Co.
Liggett Bldg. New York
Akron, Chicago, Boston, Hoboken

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DIPPED GOODS NAPHTHAS
RUBBER SOLVENT GASOLINES
Tank Cars of 4, 6 or 8000 gal. capacity
Anderson-Prichard Oil Corp.
Oklahoma City Oklahoma

TUBING, INSULATING and Straining Machinery
"Perfected" equipment for inner tubes, treads, and tire beads. Circular hose looms.
John Royle & Sons
Paterson New Jersey

RUBBER PRODUCTS
Sanitary Goods, Sheetings, Bathing Caps, Aprons, Rubber Specialties.
Sheet Gum Cut to Pattern
RANDPRINT RUBBER
Rand Rubber Co., Inc.
Sumner Ave. & Halsey St., Brooklyn, N. Y.

STEARIC ACID
STEAREX, the product standardized for rubber compounding.
Binney & Smith Co.
41 East 42nd St., New York City

USED MACHINERY
Mills, Calenders, Grinders, Washers
New and Old Rubber Scrap
Rubber Cloth Remnants
M. Norton & Co.
Locust St. Medford, Mass.

RUBBER PRODUCTS
Manufacturers of all classes of Rubber Goods.
United States Rubber Co.
1790 Broadway, New York City

STRIP CUTTING MACHINES
For cutting all rubber, composition and plain or impregnated fabrics.
Cameron Machine Co.
61 Poplar St., Brooklyn, N. Y.

WHITING
Manufactured from white marble
BY
J. E. Baker Company
114 N. George St., York, Pa.

RUBBER SCRAP
Always Buying and Selling
Rubber Waste, Cured and Uncured, Hard Rubber, Balata, Gutta Percha.
HERMAN WEBER
Newark & Jackson Sts., Hoboken, N. J.

SULPHUR—*"Tire"* Brand Superfine; *"Tube"* Brand Velvet; quality Sulphur for the rubber trade.
Stauffer Chemical Co.,
of Texas
Scanlon Bldg. Houston, Texas
San Francisco, Cal. Chauncey, N. Y.

WHITING & PARIS WHITE
manufactured from *Genuine English Chalk* and *Cliffstone*—no adulterations.
Southwark Mfg. Co.
Camden New Jersey

RUBBER SUBSTITUTES
White, brown and black.
Carter Bell Mfg. Co.
150 Nassau St. New York

TECHNOLOGIST — Testing, formulæ, costs, experimental work on all classes of rubber products. Litigation.
Fred'k. J. Maywald, F.C.S.
5 William St., Belleville, N. J.

WOOD FLOUR (wood pulp)
FINELY POWDERED WHITE PINE WOOD Like Flour—Uniform in Quality
Send for Samples
Becker, Moore & Company, Inc.
MANUFACTURERS
North Tonawanda, New York

SANITARY GOODS —
Dress Shields, Reducing Garments, Sheetings, Aprons, Bathing Caps, etc.
I. B. Kleinert Rubber Co.
485 Fifth Ave., N. Y. City

TESTING MACHINES
RUBBER TENSILE TEST MACHINES
TEXTILE TESTING MACHINES
Write for Descriptive Literature
Henry L. Scott Co.
P. O. Box 963 Providence, R. I.

ZINC OXIDES — Including KADOX and "Albalith."
The New Jersey Zinc Sales Company
New York Pittsburgh Chicago
Cleveland San Francisco

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

STATISTICS issued by the Rubber Association of America covering the consumption of crude rubber during April had little effect on the market. Although consumption in April was 35,871 tons, or slightly less than in March, gross imports were greater, reaching, in fact, a new high record of 46,026 long tons according to the estimates of the Department of Commerce. Ribbed smoked sheet has remained at an average of 40¾ cents on the New York market, while London closing prices have, with but a few slight fractional changes, been steady at 19¾ pence during the last two weeks.

March production, inventory and shipments of tires and tubes were considerably in advance over February. A new high record in the production of casings was established with a total, on a 100% basis, of 6,276,896.

Stocks of crude rubber in Singapore and Penang at the end of April were 20,387 tons in Singapore, and 4,156 tons in Penang, making a total of 25,543 tons. This compares with a total of 27,844 tons on March 31.

Crude rubber stocks in London during the week ending May 7 totaled 68,187 tons, and in the week ending May 14 68,041 tons, a decrease of 146 tons in the latter week. Arrivals of crude rubber in New York from May 1 to 13 were estimated at 14,500 tons.

Rubber invoiced to the United States in the week of May 7 totaled 8,437 long tons, of which 5,764 long tons came from British Malaya.

PLAN OF THE SECTION

The statistics included in this section have been chosen for their constant importance to the rubber industry. The tables are reprinted in the same relative position in every issue, each table being kept current by the addition of new figures as soon as they become available. The section accordingly affords the most up-to-date, complete and convenient statistical service in the industry.

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U. S. Imports and Exports of Crude Rubber.

	Gross Imports			Re-exports			Net Imports
YEARS	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.43	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40.21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,082	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.	38,925	34,661,631	39.97	1,482	1,320,461	42.00	37,443
Dec.	37,754	33,261,366	39.33	1,904	1,841,305	43.16	35,850
	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1927:							
Jan.	43,340	86,753,719	97.99	1,526	1,444,784	42.22	41,814
Feb.	28,338	23,110,257	36.41	2,451	2,277,297	41.47	25,887
Mar.	35,514	28,693,026	36.07	2,763	3,249,665	52.50	32,751
Apr.*	46,026	——	36.04				

*Official estimate based on arrivals at New York and Boston.

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	Figures on Monthly Basis						
	1921	1922	1923	1924	1925	1926	1927
January	5,045	16,938	30,106	29,058	29,638	32,196	31,518
February	5,955	14,767	30,149	25,736	29,761	31,136	30,137
March	9,190	21,408	36,629	28,385	33,498	32,936	36,141
April	13,084	19,294	29,085	27,129	34,139	32,696	35,871
May	16,023	23,246	36,155	25,845	35,322	29,364	
June	16,142	31,713	24,272	22,753	35,822	28,598	
July	18,310	24,522	17,685	23,396	36,053	27,577	
August	23,649	29,361	20,359	28,982	35,909	34,533	
September	16,705	24,410	17,594	31,497	31,691	32,904	
October	16,814	26,881	21,321	31,520	29,047	29,836	
November	14,105	24,950	20,437	27,289	28,853	28,080	
December	15,482	25,070	21,902	27,199	28,748	26,293	
TOTALS	170,504	282,560	305,694	328,769	388,481	366,149	

	Figures on Quarterly Basis					
Quarter	1921	1922	1923	1924	1925	1926
Jan./Mar.	65,463	127,360	96,776	87,609	95,263	94,301
Apr./Jun.			89,493	75,674	104,099	87,109
Jul./Sept.	105,962	155,067	55,621	83,813	99,493	93,793
Oct./Dec.			63,617	92,656	85,789	83,212
Total	171,425	282,427	305,507	339,752	384,644	358,415

Note: The Rubber Association estimates its monthly rubber consumption figures to be 90% complete. Up until 1925 the quarterly figures were likewise estimated to be 90% complete; beginning with 1925 an estimate of 92% completeness has been used. These estimates have been used in raising the figures in this table to 100%. The quarterly figures are generally regarded as the most authentic; the monthly figures may be accepted as preliminary.

Rubber Invoiced to the U. S.

(Reported by American Consuls—Quantities in Long Tons)

During the Week Ended	From Br. Malaya	From Ceylon	From Dutch East Indies	From London & Liverpool	Total
Mar. 12	6,146	1,352	1,958	198	9,654
Mar. 19	6,417	908	2,026	272	9,623
Mar. 26	5,800	1,014	1,638	493	8,945
Apr. 2	4,936	582	1,568	542	7,628
Apr. 9	5,536	584	805	1,295	8,220
Apr. 16	3,875	1,037	1,513	624	7,049
Apr. 23	5,548	1,099	1,241	475	7,463
Apr. 30	5,250	1,033	1,336	324	7,943
May 7	5,764	431	1,778	464	8,437
May 14	4,749	570	1,054	1,327	7,700

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
1925																																
Jan.		39½	39⅝		39	39	39¾	88⅛	88⅜	88⅜		87⅞	86½	86⅜	85	85⅝	35⅝	35⅝	34⅞	84⅞	35	35½	36¼	35⅝	35⅝	85⅝	85⅝	85⅝	85	85⅝	85⅝	85⅝
Feb.		35⅝	34⅝	34½	34½	34⅞	35⅝	85⅛	84⅜	84⅜	85¼	85⅛	85⅝	36	85	85⅝	36⅜	36⅜	36¼	36⅜	36⅜			36⅜	37⅛	37⅛	37⅛	37⅛	37⅛				
Mar.		38⅝	38⅝	38⅝	38⅜	39⅜	39⅜	39⅜	39⅜	40⅛		89⅜	40⅜	40½		40⅜	40½	41	41¼	41⅝	41⅝			42⅛	43⅜	43⅜	43⅜	43⅜	43⅜				
Apr.	41¼	41⅜	41¼			42⅜	42½	43½	43⅜				44⅜	44⅜	44⅜	44⅜	44⅜			44⅛	44⅛			43⅜	43⅜	43⅜	44⅜	44⅜	44½	44¼	44¼	44¼
May	45	41⅜		47¼	46⅞	48⅜	50⅛	52½	55⅜			57	59¼	60¾	60⅜	60⅜	60⅜	60⅜	60⅜													
June	69½	72	74⅜	76½	75⅜	75⅜	74⅜	74½	73⅜	74	75¼	76⅜	74⅜	74⅜	73⅜	74⅜	74⅜	73⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜	75⅜
July	81⅞	85½				88⅜	90½	95⅛	94⅜	99¼	106½		110	105⅜	110⅜	110⅜	110⅜	118⅜	118⅜													
Aug.	94½	95½		88⅜	85⅜	86⅜	81⅜	79		71¾	72½	76½	81½	80⅜	77⅜	77⅜	117	116¾	117⅜	121	117⅜	119	112¾	112¾	112¾	112¾	112¾	112¾	112¾	112¾	112¾	112¾
Sept.	88½	87¼	85	81¼	81¼			78¼	80½	83	86½	92	92½		93½	93¾	93¾	92¾	92¾	94¼	92	82½	93¼	90	89	98	89	89	89	89	89	89
Oct.	91¼	91¼	92		94½		97½		99	101	86		97	95½	97	99¼	99¼	99	99	101¼	102	99¼	99½	99¼	99¼	99¼	99¼	99¼	99¼	99¼	99¼	99¼
Nov.		99¼		98⅜	98¼	100	100¼		98¼	99½	100¼	101¾	104½	105½		109	107	107	107	109¾	110¾	110½	110½	109	108¾	108¾	108¾	108¾	108¾	108¾	108¾	108¾
Dec.	106⅜	108½	107⅜	107¼	108¼		108	109	109¼	106	105½	105½		101		99¾	90¼	93	88¼	86¾	88¾	90¼	88¾	88¾	88¾	91	93	91¼	91¼	91¼	91¼	91¼
1926																																
Jan.		67		87	87¼	85½	86½	87¼	87¾		88¼	88¼	88¼	85½	84¾	82½		75¼	75½	75	72	72½	68	66½	67	69¼	70½	69				
Feb.		67¼	66¾	66¾	68	69		69	67	65	66	66	65½		63	60½	60½	60	59	60		56	61	55	51¼	51		59½	58¼	58	59	62¼
Mar.	55	58	53	53⅜	53⅛	57½	58	56	55½	56	60	63	61½	62	61	62	61	61	61½	60	61	61½	61	60	59	59⅜	60	48	48	49	46	51¼	47¾
Apr.	59		59	50¼	49¼	49¾	56½	56½	53	53	51⅜	50⅜	49	48½	47⅜	47⅜	47	47	47½	47½	48	48	48	48⅛	48	48	48	48	48	48	48	42½
May	48¼																															
June	42	42	41¾	42	41¼		41½	42	43	41¾	42	41½	43	43½	43	43	43	43	43	44	46	46¾	47	45	45	45	45	45	45	45	45	41¼
July	42	42	41¾			41¼	41½	41½	41¾	41¾	42	37½	37½	38½	40	40	40	38	40	41½	41½	41½	43	43½	43	42	42	42	42	42	42	42½
Aug.	41¾	42	42	42	42	41½	41½	41½	38¾	37¾	37½	37½	38½	40½	40½	40¼	40¼	39	39	39	41	41½	41½	41½	41½	41	41	41	41	41	41	41¼
Sept.	40¼	40¾	38½	38½	40¾	40¼	40¼	40¼	40	40¼	40¼	40¼	40¼	40½	40¼	43	42¾	42¾	42¾	42¾	42¼	42¼	42¼	42¼	42¼	42¼	42¼	42¼	42¼	42¼	42¼	39½
Oct.	43	43	40¾	40¾	40¾	42¾	42½	42½	42½	42½	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾
Nov.	41¾		41	43¾	42¾	42¾		42½	41½	41½	41¾	41½	41½	41½	41½	41½	41½	41½	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42½
Dec.	36¾	37½	37½	37½	41½	41½	37	37	37	37½	37½	37½	37½	37½	37½	37½	37½	37½	37½	37½	37½	37½	37½	38	38	38	38	38	38	38	38	38½
1927																																
Jan.			38½	39	39¼	39¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	39	39	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾
Feb.	37¾	37¾	37⅝	37½	37½			37⅝	37⅝	37⅝	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾	37¾									
Mar.	39¾	39¾	40	40¾	41		40⅝	40⅝	40⅝	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾
Apr.	41¾	41⅜		41¼	41⅛	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼
May																																
June																																
July																																
Aug.																																
Sept.																																
Oct.																																
Nov.																																
Dec.																																

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1921

Year	Cents	Year	Cents	Years	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23	1921	16.36

Average Monthly Price per Pound since 1922

Months	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents	1927 Cents
Jan.	18.82	32.73	25.86	36.71	79.50	38.75
Feb.	16.12	35.14	25.29	36.01	62.25	38.25
Mar.	14.53	34.21	22.83	41.00	59.00	41.04
Apr.	15.99	32.48	22.51	43.64	51.25	40.86
May	15.25	27.39	19.89	58.47	47.75	
June	15.11	26.88	18.81	77.26	42.50	
July	14.67	26.10	22.16	103.16	41.03	
Aug.	13.93	26.84	26.17	82.99	38.50	
Sept.	14.44	28.95	27.56	88.88	41.00	
Oct.	19.78	26.93	31.13	98.01	42.50	
Nov.	23.88	27.14	34.33	104.80	38.50	
Dec.	27.42	26.60	37.88	98.51	38.25	
Average for Year	17.50	29.45	26.20	72.46	48.50	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fifth Restriction Year—Third Quarter

Day	May	June	July	Day	May	June	July
1	—			16	19¾		
2	19⅝			17	19¾		
3	19¾			18	19¾		
4	19¾			19			
5	19⅞			20			
6	19⅞			21			
7	19⅞			22			
8	—			23			
9	19⅞			24			
10	19⅞			25			
11	19¾			26			
12	19¾			27			
13	19¾			28			
14	19¾			29			
15	—			30			
				31			

(The average price for the period for which daily prices are reported above is approximately 19,783 pence. The British Colonial Secretary has announced that only 60% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26	1926-27
Nov.-Jan.	14.285	14.175	17.9983	46.709	19.265
Feb.-Apr.	16.858	12.917	19.356	28.103	19.696
May-June	14.242	10.974	38.469	21.001	
Aug.-Oct.	14.944	14.632	43.269	20.199	

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Day of Month	April Cents	May Cents	Day of Month	April	May Cents	Day of Month	April Cents	May Cents
1	14.40	——	11	14.40	15.60	21	15.30	
2	14.35	15.45	12	14.50	15.75	22	15.05	
3	——	15.85	13	14.50	15.75	23	15.25	
4	14.30	15.95	14	14.50	15.75	24	——	
5	14.35	15.80	15	14.50	——	25	15.35	
6	14.45	16.00	16	——	15.70	26	15.10	
7	14.40	15.95	17	——	15.70	27	15.30	
8	14.45	——	18	14.65	15.80	28	15.35	
9	14.45	15.75	19	14.60		29	15.30	
10	——	15.75	20	14.80		30	15.30	
						31		

Average Monthly Price Per Pound

Month	1925 Cents	1926 Cents	1927 Cents	Month	1925 Cents	1926 Cents	1927 Cents
Jan.	23.99	20.85	13.42	Aug.	23.72	18.57	
Feb.	24.70	20.60	14.10	Sept.	23.79	17.02	
Mar.	25.64	19.35	14.32	Oct.	21.77	13.14	
Apr.	24.54	19.13	14.75	Nov.	20.94	12.86	
May	23.41	18.92		Dec.	20.06	12.68	
June	24.13	18.57		Average for Year	23.45	17.53	
July	24.68	18.71					

Stock of Crude Rubber in the U. S.

(All Quantities in Long Tons)

At	ON HAND			AFLOAT			AND AFLOAT ON HAND		
End of	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	60,870	55,198	76,172	36,759	46,296	45,312	97,629	100,434	121,484
Feb.	54,109	58,035	91,186	41,475	46,935	42,166	95,584	104,970	133,352
Mar.	52,494	61,822	85,740	40,577	43,567	49,600	93,071	105,389	135,340
Apr.	50,143	55,261	92,757	53,465	41,905	38,963	103,608	97,166	131,720
May	52,064	64,360		46,846	40,303		98,910	104,663	
June	50,997	60,460		51,202	40,907		102,199	101,367	
July	46,245	64,900		46,003	38,062		92,248	102,962	
Aug.	42,354	60,870		41,254	37,360		83,608	98,230	
Sept.	36,367	62,078		55,151	42,464		91,518	105,542	
Oct.	34,085	64,989		51,098	52,930		85,183	117,919	
Nov.	34,885	69,385		42,692	47,311		86,577	116,696	
Dec.	51,215	72,520		48,208	52,020		99,423	124,540	

(Rubber Association of America figures raised to 100%.)

Stock of Crude Rubber in London

(No. of tons in Wharves and Warehouses, including Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,252	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	44,057
December	50,652	69,792	72,299	60,246	29,488	5,697	48,921

At End of Recent Weeks

1926	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
September	30,764	32,011	33,249	34,587	——
October	36,065	37,226	39,650	41,080	42,141
November	43,045	43,299	44,553	43,859	——
December	44,395	46,349	47,324	48,382	——
1927					
January	48,948	50,756	52,484	53,662	54,786
February	55,740	56,939	56,962	58,659	——
March	59,945	61,516	61,300	63,167	——
April	62,634	63,861	65,033	65,511	67,034
May	68,187	68,041			

Rubber in Singapore and Penang

(Stocks held by Dealers—Quantities in Long Tons)

End of	1925	1926	1927	*End of*	1925	1926	1927
Jan.	15,925	15,726	25,440	July	15,894	23,101	
Feb.	17,320	13,653	26,766	Aug.	17,251	23,362	
Mar.	17,261	18,389	27,844	Sept.	16,526	25,997	
Apr.	15,368	16,328	24,543	Oct.	15,346	26,614	
May	15,804	16,967		Nov.	19,788	25,486	
June	15,884	19,416		Dec.	18,840	26,443	

Rims Inspected and Passed in U. S.

(Tire & Rim Association Reports)

	Total	Per Cent Balloons		Total	Per Cent Balloons
1923	23,140,620	0.6	1925	25,997,849	66.8
1924	21,863,720	19.7	1926	24,199,613	78.8
1926			1927		
July	2,123,368	84.8	January	1,489,078	77.0
August	2,378,850	82.3	February	1,753,224	84.4
September	2,365,518	80.7	March	2,071,989	85.1
October	1,828,539	76.9	April	2,060,868	88.0
November	1,210,472	77.0	May		
December	1,096,429	76.7	June		

U. S. Consumption of Gasoline

(In Barrels of 42 Gallons)

MONTHS	1924	1925	1926	1927
January	11,918,000	14,386,000	17,582,000	17,888,000
February	9,626,000	13,210,000	15,814,000	18,240,000
March	10,961,000	14,890,000	19,302,000	22,464,000
April	14,583,000	19,013,000	20,848,000	
May	15,889,000	20,459,000	24,213,000	
June	16,421,000	20,724,000	23,803,000	
July	18,610,000	22,879,000	24,752,000	
August	19,825,000	22,323,000	26,912,000	
September	16,871,000	20,177,000	22,929,000	
October	18,029,000	19,826,000	23,973,000	
November	16,607,000	18,024,000	20,618,000	
December	15,663,000	17,954,000	21,419,000	
TOTAL	185,003,000	223,865,000	262,165,000	

U. S. Tire and Tube Statistics

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	40,932	45,259	51,633	60,845	61,237
Shipments	39,987	45,204	50,120	59,262	59,002
Inventory[2]	6,132	5,772	7,427	8,142	10,456

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	4,740	4,587	4,965	4,013	2,974	4,932	7,949	9,947	10,432
Feb.	4,908	4,865	5,095	3,924	3,436	4,458	8,928	11,164	11,07b
Mar.	5,276	5,456	6,276	4,657	4,561	5,701	9,510	12,004	11,583
Apr.	5,341	5,346		5,498	4,980		9,088	12,461	
May	5,467	5,023		5,954	5,211		8,611	12,343	
June	5,418	5,422		6,737	5,724		7,243	11,968	
July	5,587	4,950		6,298	6,337		6,421	10,592	
Aug.	5,607	5,872		4,760	6,744		7,261	9,732	
Sept.	5,007	5,706		4,569	6,040		7,681	9,318	
Oct.	4,505	5,103		5,580	4,544		6,670	9,917	
Nov.	4,229	4,324		3,671	3,733		6,955	10,297	
Dec.	4,760	4,683		3,601	4,718		8,142	10,456	

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	50,850	60,116	70,706	82,614	76,618
Shipments	49,673	59,072	68,016	81,004	71,591
Inventory[2]	7,643	8,425	11,052	11,313	16,200

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	6,343	6,809	5,337	5,576	3,723	6,016	11,570	14,361	15,585
Feb.	6,339	6,825	5,658	4,971	3,736	5,120	13,023	17,090	16,075
Mar.	7,000	7,030	7,184	5,711	4,987	6,157	14,236	19,131	17,096
Apr.	6,851	6,554		6,704	5,051		13,618	20,674	
May	6,846	6,149		8,040	6,304		12,501	21,141	
June	6,942	6,171		9,032	6,898		10,409	20,243	
July	7,544	5,729		9,140	8,569		8,635	17,267	
Aug.	7,618	7,424		6,923	9,579		9,271	15,462	
Sept.	7,254	7,590		6,665	7,762		9,950	15,312	
Oct.	6,612	6,208		7,845	5,474		8,726	15,929	
Nov.	6,266	4,852		5,406	4,045		9,491	16,604	
Dec.	6,999	5,277		4,991	5,463		11,313	16,200	

(1) Rubber Association of America figures, raised to 100%. The Association estimates its figures to be 75% representative or complete when issued and that basis has been accepted when preparing the statistics in this table.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	300,142	289,547	10,595	46,965	42,890	4,075
November	226,278	219,504	6,774	39,410	36,356	3,054
December	143,413	137,361	6,052	30,002	28,302	1,700
TOTAL	3,928,323	3,766,336	161,487	534,082	493,453	40,629
1927						
January	208,718	196,973	11,745	40,874	37,243	3,631
February	275,458	260,632	14,826	41,947	38,118	3,829
March	360,754	341,665	19,089	48,590	45,056	3,534
April						
May						
June						
July						
August						
September						
October						
November						
December						

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	BRITISH MALAYA[1]								DUTCH EAST INDIES[3]						
	Gross Exports	Gross Exports minus Imports	Imports Ceylon[2]	India & Burma[3]	Sarawak[4]	British North Borneo[3]	Siam[4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Fr. Indo-China[4]	Amazon Valley[5]	All Other[5]	World Total[1]
1923	252,016	70,432	181,584	37,113	6,416	5,705	4,237	1,718	32,938	48,402	43,422	5,606	19,127	7,856	404,123
1924	259,706	108,524	151,182	37,351	7,697	6,699	4,621	2,962	42,446	53,483	80,347	6,688	22,906	9,065	425,447
1925	316,825	158,022	158,803	45,684	10,082	8,413	5,424	5,394	46,643	62,678	119,271	7,881	24,079	13,797	508,149
1926:															
Jan.	30,452	10,237	20,215	4,058	1,273	416	472	289	4,397	6,277	8,081	915	1,697	1,805	49,895
Feb.	30,440	8,306	22,134	4,941	725	488	450	253	4,474	5,734	6,801	554	2,169	1,978	50,701
Mar.	35,012	14,800	20,212	5,708	1,113	792	561	418	4,865	5,612	11,880	573	2,395	1,899	56,028
Apr.	23,727	10,565	13,162	3,484	590	679	374	293	4,522	4,598	6,208	410	1,778	1,529	37,637
May	31,231	10,604	20,627	3,600	691	927	410	279	4,742	5,293	8,606	502	2,144	1,464	49,285
June	30,624	11,764	18,860	3,906	452	779	513	275	5,440	6,111	9,844	549	1,367	1,270	49,374
July	28,824	15,280	13,544	4,800	938	911	420*	439	4,929	5,522	12,864	1,521	1,246	1,148	48,282*
Aug.	34,625	13,595	21,030	5,246	531	890	420*	316	4,418	3,472	10,349	378	1,411	1,997	49,548*
Sept.	35,913	13,972	21,941	6,027	652	888	420*	457	4,326	6,757	10,971	681	1,463	822	55,405*
Oct.	39,367	15,203	24,164	6,026	635	805	420*	385	4,193	6,988	11,513	661	1,616	1,023	58,429*
Nov.	34,302	12,201	22,101	4,687	1,111	685	420*	285	4,060	5,746	8,998	718	1,780	1,259	51,850*
Dec.	36,811	14,716	22,095	6,361	1,177	895	420*	338	5,025	7,106	12,333	790	2,492	714	59,746*
	391,328	151,243	240,085	58,844	9,878	9,155	5,299*	4,027	55,391	69,216	118,448	8,252	21,558	16,017	616,170*
1927:															
Jan.	34,946	14,995	19,951	6,697	921	959	500*	304	4,184	6,705	10,541	941	3,096	981	55,780*
Feb.	27,528	11,607	15,921	3,571	1,123	522	500*	360	4,707	6,526	10,634	675	1,800*	1,350*	47,689*
Mar.	41,246	17,464	23,882	7,141	1,469	997	500*	432	5,657	7,003	12,490	733	1,800*	1,350*	63,454*
Apr.	29,041	13,069	15,972									557			
May															
June															
July															
Aug.															
Sept.															
Oct.															
Nov.															
Dec.															

(1) Malayan net exports cannot be taken as production since imported rubber is largely wet native rubber which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, and 3,263 in 1926. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons 1924, 6 tons 1925, and about 20 tons in 1926. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons 1924, 2,239 tons 1925, and about 60 tons in 1926. In 1926, 196 tons of latex sprayed rubber and 125 tons of ficus rubber were exported from Java and Madura. (6) Calculated from official import statistics of principal consuming countries; viz., United States, United Kingdom, France, Germany, Italy, Belgium, and Netherlands. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. *Figure is provisional; final figure will be shown immediately it becomes available.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	United Kingdom	France (abd)	Germany	Canada (ac)	Japan (ac)	Italy	Russia (ce)	Australia (cf)	Belgium (d)	Netherlands	Sweden (abcd)	Norway (abc)	Denmark (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	–3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	–11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	–807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,412	7,088	4,217	2,930	875	1,690	701	440
1926	395,667	84,865	39,390	22,775	20,253	18,125	9,809	6,529	7,860	2,498	2,665	2,125	609	575
1926:														
January	40,345	6,886	3,170	703	2,188	892	760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,881	741	1,041	643	432	143	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079	864	1,037	832	469	129	227	213	31	55
Apr.	33,416	8,275	4,834	1,781	1,624	1,868	865	402	431	71	93	204	27	23
May	28,705	6,773	2,937	1,848	1,239	1,010	705	200	386	186	241	110	24	47
June	23,795	5,894	2,327	1,655	1,188	1,465	1,070	983	546	269	214	178	20	34
July	34,266	6,768	2,603	2,202	1,552	1,447	800	132	586	295	480	195	34	27
Aug.	26,081	7,327	2,819	2,110	1,888	1,284	796	655	1,159	303	596	199	52	55
Sept.	35,675	8,843	2,900	2,029	1,355	1,922	819	472	1,125	283	430	159	43	27
Oct.	28,110	8,082	2,962	2,423	1,865	2,396	645	585	889	301	2	210	68	48
Nov.	37,673	9,247	3,194	3,007	1,548	3,380	832	568	802	194	–18	179	65	50
Dec.	35,850	4,749	3,341	2,562	1,846	856	439	725	677	248	157	184	122	69
1927:														
January	41,815	10,192	3,732	2,481	1,936		672	803	508	296	193	164	53	52
February	25,886	7,692	3,708	3,103	2,620		601	907		502	153	191		27
March	32,752	9,049	2,328		3,760			784			86	219		

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. –Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

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* * * *

RUBBER AND TEXTILES. Handbook issued by the Propaganda Department, Rubber Growers' Association, 2-4 Idol Lane, London, E.C.4. Copies supplied free on request.

This handbook is another step in the program of the Rubber Growers' Association to foster the use of rubber in various industries by telling the impressive story of its utility and pointing the ways in which still greater advantage can be taken of it. The publication is also evidence of the careful way in which the Propaganda Department of the Association is carrying out its work. As has been done in other pamphlets which preceded this one, the history and properties of rubber are briefly reviewed. Application of rubber in waterproofing and adhesives is covered.

* * * *

RUTHERFORD'S PLANTERS' HANDBOOK. Published by The Times of Ceylon. On sale through the London office of that publication, Blackfriars House, London, E.C.4. Price, 30 shillings.

This latest edition, the eighth, of this well-known work for the guidance of tropical planters of rubber, tea, cocoanuts, etc., contains new information on such subjects as budgrafting, manuring, factory procedure, etc. The general sections devoted to buildings, plantation arrangement, drainage and so on should be helpful to tropical agriculturists of all kinds. Tropical diseases, their effect on labor forces and ways of combatting them are adequately discussed. Although this information is offered with special reference to Ceylon, it will nevertheless be found of benefit to intending planters in any country. A copy of "Rutherford's" would probably be put down as an essential part of the equipment of any American company setting out in rubber culture.

* * * *

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